THE ZETETIC

THE SKEPTICAL INQUIRER

Did Ancient "Astronauts" Really Land Here?

Bermuda Triangle / Astronomers and UFOs / Einstein and ESP / Astrology, Psychics, and Secrets / The UFO That Wasn't

Published by the Committee for the Scientific Investigation of Claims of the Paranormal

VOL. II NO. 1 FALL/WINTER 1977

THE ZETETIC

Journal of the Committee for the Scientific Investigation of Claims of the Paranormal
Volume II, No. 1 ISSN 0148-1096 Fall/Winter 1977

5 NEWS AND COMMENT

16 PSYCHIC VIBRATIONS

ARTICLES

22 Von Däniken's Golden Gods, *by Ronald D. Story*

36 Critical Reading, Careful Writing, and the Bermuda Triangle, *by Larry Kusche*

41 Pseudoscience at Science Digest, *by James E. Oberg and Robert Sheaffer*

45 Do Fairies Exist? *by Robert Sheaffer*

53 Einstein and ESP, *by Martin Gardner*

57 N-Rays and UFOs: Are They Related? *by Philip J. Klass*

62 What *They* Aren't Telling You: Suppressed Secrets of the Psychic World, Astrological Universe, and Jeane Dixon, *by Dennis Rawlins*

BOOK REVIEWS

84 P. A. Sturrock, *Report on a Survey of the Membership of the American Astronomical Association Concerning the UFO Problem* (Reviews by Philip J. Klass and John P. Robinson, responses by P. A. Sturrock)

93 Charles Berlitz, *Without a Trace* (Reviews by Larry Kusche and Philip J. Klass)

102 Roy Wallis, *The Road to Total Freedom: A Sociological Analysis of Scientology* (Richard de Mille)

104 Tom Valentine, *Psychic Surgery;* William A. Nolen, *Healing: A Doctor in Search of a Miracle;* C. Norman Shealy, *Occult Medicine Can Save Your Life;* John A. Richardson and Patricia Griffin, *Laetrile Case Histories* (Laurent A. Beauregard)

110 Roy Mackal, *The Monsters of Loch Ness* (Bernard Heuvelmans)

FEATURES

122 From Our Readers

128 Contributors

Cover photo: Mysterious Nazca Runways, courtesy International Explorers Society.

Editorial Board Martin Gardner
Ray Hyman
Philip J. Klass
Paul Kurtz
James Randi
Dennis Rawlins

Editor Kendrick Frazier

Managing Editor Diane Malejs

Consulting Editors Theodore X. Barber
John Boardman
Milbourne Christopher
Richard de Mille
Persi DiAconis
Eric J. Dingwall
Christopher Evans
C. E. M. Hansel
Ellic Howe
Joseph G. Jorgensen
Sterling Lanier
Edward J. Moody
William F. Powers
Roy Wallis
James Webb

Layout Paul Rotthoff
Betsy Offermann

Circulation Patricia Pliss

THE ZETETIC is the official journal of the Committee for the Scientific Investigation of Claims of the Paranormal.

Manuscripts, letters, books for review, and editorial inquiries should be addressed to: The Editor, *THE ZETETIC*, 3025 Palo Alto Dr., N.E.; Alburquerque, New Mexico 87111.

Advertising, changes of address, and subscriptions should be addressed to: *Executive Office, THE ZETETIC*, Box 29, Kensington Station, Buffalo, New York 14215. Application for permission to quote from this journal should be addressed to the Executive Office.

Inquiries from the media about the work of the Committee for the Scientific Investigation of Claims of the Paranormal should be made to the Executive Office. Tel.: (716) 837-0308.

Copyright © 1977 by The Committee for the Scientific Investigation of Claims of the Paranormal, Box 29, Kensington Station, Buffalo, New York 14215.

Subscription rates: individuals, $10; libraries and institutions, $15; sustaining subscribers, $100 or more. Single issue, $5.

Change of Address: Six weeks advance notice to the Executive Office and old address as well as new are necessary for change of subscriber's address.

THE ZETETIC is published semi-annually and printed at Artcraft-Burow, Buffalo, New York.

News and Comment

Complaints against National Enquirer

The National News Council has upheld two formal complaints filed against the *National Enquirer* concerning misrepresentations in articles about UFOs.

The National News Council (1 Lincoln Plaza, New York, N.Y. 10023) is an organization of editors and noted citizens that attempts to determine the validity of specific formal complaints against reports in the news media. It is described by the *Columbia Journalism Review,* which published the Council's latest full report in its September/October 1977 issue, as "a qualified and responsible group whose findings on alleged misdeeds of the news media deserve wide dissemination."

One of the two complaints about UFOs was filed by Elmer Kral of Grand Island, Nebraska. It dealt with an article that bore the headline "Walter Cronkite: Why I Believe in UFOs." The other was headlined: "I Believe There's Life in Space—and I'll Urge Govt. to Reveal What It Knows About UFO's." The latter concerned statements allegedly made by Sen. Harrison Schmitt of New Mexico.

A second complaint was filed by Herbert Strentz, Dean of the School of Journalism of Drake University, relating to an article titled: "Air Force Study 'Buried and Hid' Facts About UFOs." Strentz said he denied the accuracy of two quotes attributed to him in a conversation with an *Enquirer* staff member before publication and then sought a retraction of the quotes after they were published. No retraction was made.

In his complaint, Mr. Kral quoted from a letter received from Walter Cronkite's secretary saying: "Mr. Cronkite was not interviewed as reported in the article. He never said to anyone any of the things quoted in the article. He never heard of those incidents until he read of them in the *Enquirer*. . . . Since the article is false in all these particulars, it does not accurately portray Mr. Cronkite's views on the so-called flying saucers." (See also *The Humanist,* May/June 1977, p. 24).

In a letter to the Council, Mr.

Cronkite denied ever having met the article's author. Mr. Cronkite also wrote to the chairman of the *National Enquirer* denying the authenticity of the article. He received no response.

In regard to the Schmitt article, the senator's press secretary had written: "Senator Schmitt was not interviewed for this article and to the best of his recollection has never stated the underlined quotes in the article."

In a letter to the Council, the president of the *National Enquirer* stated: "We do not feel any obligation to answer charges made or forwarded by self-appointed organizations to review the press." But he added that the Cronkite story was received from a "reputable" and widely published freelance reporter. "It was published in good faith by us." The reporter told the Council he stood by the quotes. The reporter of the Schmitt article said it had tape-recorded a fifteen-minute interview with Schmitt but the contents of that tape were not made available to the Council.

In its conclusion, the Council reviewed the record, which it said "hardly inspires confidence in the accuracy of the *Enquirer's* reportage in these instances."

"There is no question but that the *Enquirer* was informed in a number of ways of the denials of statements in the various interviews. . . . In the circumstances there was an obligation upon the *Enquirer* to air in some fashion the fact of the denials. . . . We note that the *Enquirer* provides neither a letters-to-the-editor column nor an editorial page which might provide some other form of reader response. . . .

The council concludes that the *National Enquirer* has followed a policy of irresponsibility in failing to provide any means for denial or protest to appear in its columns and finds all the complaints in these specific instances warranted."

The conclusion was signed by seven members of the Council, including its chairman, Norman E. Isaacs, editor in residence at the Columbia University Graduate School of Journalism.

Three members of the Council, however, thought that the Council's decision against the *Enquirer* should have been even stronger.

Concurring in part and dissenting in part, Richard S. Salant, president of CBS News, (with Joan Ganz Cooney of the Children's Television Workshop and Sylvia Roberts, a general counsel for the National Organization for Women, concurring) stated:

"I agree that, at the very least, the *Enquirer* should have provided some sort of public acknowledgment in its pages of the denials and objections by Senator Schmitt, Senator Goldwater, astronaut McDivitt, Walter Cronkite, and Dean Strentz.

"But I would go further. In the totality of circumstances involved here, I do not think it enough for the Council to avoid the issue of

accuracy and credibility and take refuge in the easier escape of criticizing the *Enquirer* for failing, in one way or another, to reflect these denials. . . . All these circumstances, among others, clearly justify shifting the burden of proof to the *Enquirer* and its writers. Inquiry into issues of accuracy and credibility cannot automatically be aborted by noncooperation and, indeed, defiance. . . .

"Therefore, I would find, in all the circumstances in their totality, that the burden of establishing accuracy shifted, and the *Enquirer* and its writers failed to meet that burden. Hence I would find that the articles were incorrect and inaccurate in attributing to the various persons named a belief in UFOs."

—Kendrick Frazier

"Then there's the media triangle, where objectivity mysteriously vanishes."

"Levitation" for fun and profit

Back into the news comes the aging hippie of TM, Mahareshi Mahesh Yogi, smarting from a two-year decline in enrollment that left him with only 10 percent of the number of faithful who formerly subscribed to his weary philosophy. But if the gullibility of the American public is any standard to measure by, the TM tycoon will soon be giggling all the way to the bank once more. His latest whopper is a double-header: he offers a course in true levitation *and* invisibility. Cost—up to $5,000.

Levitation, says the Mahareshi, is arrived at in three stages. First, one learns to hop off the ground "a foot or two" while seated in a "lotus" position. To the uninformed, I must explain that this position is simply a cross-legged sitting stance. But we are assured by TMers that this is actually a position fraught with overtones of great psychic and supernatural significance.

Second stage of this wonder is called "hovering," and the third is claimed to consist of "actual mastery of the sky, flying at will."

In Britain, a dozen believers handed over 2,000 pounds (about $3,500) each to the tour operators and went tripping off to Switzerland, where TM instructors initiated them into this fine art of levitation. If they had expected to be believed when they returned with

claims of wonderful powers, they were not disappointed. But David Berglas, the prominent magician whose mind-boggling demonstrations of psychic imitations are frequently seen on British TV, offered to repay each of the levitators their investment, if they would appear with him to demonstrate. A date was agreed upon, and Britain waited breathlessly. But a hurried call from the headquarters in Switzerland warned the faithful that (a) they were only novices, (b) performing for money may spoil them spiritually, and (c) it would be a cheap stunt—so they demurred, at the last moment.

In the United States, a Baltimore lawyer, David Sykes, assured all that "if a maximum of 10 people, but no more, donate a minimum of $10,000 to the program," he would show them true levitation. A rival Yoga group, The International Sivananda Yoga Vedanta Centers, came up with the required sum and a team of investigators. Were they treated to a miracle? No, Sykes withdrew his offer suddenly, and we are left wondering if the Mahareshi's followers are just a bit crazy, or very shy. . . .

But what of conjurors, who for a century and more have been doing levitation and invisibility tricks for the public? Doug Henning, the brilliant star of Broadway's "Magic Show," rushed off to Switzerland as one of the faithful after announcing "The Age of Enlightenment" on network television. He spent months studying with the TM gurus and was sufficiently adept when appearing before an audience at a college in Minnesota in August to report that the whole thing was "part of a mathematics we do not yet understand." He extolled the powers of ESP and levitation exhibited by the Mahareshi, yet when asked if he had actually *seen* these miracles, he had to admit that he had not. As for the invisibility trick, Doug assured his audience that he had seen videotapes—which were unfortunately not available—showing believers getting "black and fuzzy" on the way to becoming invisible. One wonders.

Henning assured his listeners that he would return "in a few months" to show them the perfected levitation. We can hardly wait.

The truth of the matter seems to lie in a statement made on an NBC newscast. Photos had been shown in TM advertising of devotees in mid-air, about eight inches above a mattress. Strangely, the photos were somewhat blurred, and clothing was flapped about. It almost seemed as if someone were trying to deceive the unwary by taking still photos at high speed of a gymnast bouncing on a mattress! When actual motion pictures were shown on NBC, the commentator closed with these words: "To the followers of the Mahareshi, this may be levitation; to us, it appears to be bouncing up and down."

The first stage of this miracle

does not convince even the most unsophisticated and gullible observer. We await with very slight anticipation the unveiling of the second stage—hovering. And we are hardly breathless awaiting the total invisibility that is said will follow the "black-and-fuzzy" phase of these lessons. A lot of people have spent a lot of money to learn how to bounce on a mattress, and the Mahareshi just *may* have extended his giggles to the point where they are not funny anymore, even to the skeptics.

Barnum was right. . . .

—*James Randi*

The author will pay to any person who can demonstrate either the power of true levitation or invisibility or any other purported paranormal power, the sum of $10,000. Such demonstration must take place before a small committee of competent observers, under satisfactory scientific conditions.

[Signed] James Randi
51 Lennox Ave.
Rumson, N.J. 07760.

Psychic Painter

Michael Manning, the newest darling of the psychic set in England, has been receiving wide acclaim in the *Sunday Mirror* over there. His hyperbolic claims of wonders are dutifully printed without much effort at checking them up, and American papers have picked up some of this technique, as witness the *San Francisco Examiner*, which recently did a piece on Manning's miracles that leaned heavily on his ability to draw and paint as if possessed by the spirits of long-dead artists.

In the article, Manning claimed that an expert from Sotheby's, the well-known art gallery in London, had declared that "if he hadn't been told the 'Picasso' was by Manning, he would have thought it was original." I checked up on this, and determined from Mr. von Watzdorf (through a friend in London, Michael Hutchinson) that the statement by Manning was "absolutely not true." Concerning the drawings said to have been made by various masters in Never-never Land, von Watzdorf said, "They were all done by the same hand . . . clever, but not convincing . . . the 'Picassos' and the 'Durers' were copies of existing works."

Following up on another item that piqued my interest, I wrote to the Rijksmuseum in Amsterdam to find the truth about a claim Manning made in the pages of the *London Daily Mirror.* He had claimed that a drawing—"of a sad little monkey" that he produced "in trance" and that he did not know the origin of—appeared in his book, *The Link*, and that it had caused excitement at the museum, who contacted him when they saw the drawing. They recognized it as a copy of a Savery original that had been "kept in their vault" and had "never been published." "So

where could I have picked it up from?" queries Manning.

As with other so-called miracles he speaks of, investigation proves his deceptions. My letter addressed to the director of the Rijksmuseum elicited a prompt reply. It turned out that the drawing concerned was *first* published in 1905/06, and again as recently as 1965, in a catalog of *Selected Drawings*. The publications were easily available, and the original Savery, according to the museum, "can be looked at and studied by any visitor to the Printroom." This is the drawing that Manning said "has never been displayed."

These inquiries are the *only inquiries I launched*, and all of them proved that Manning was lying. I made no other inquiries that turned up any verification of his claims.

Further, the museum denies that (at least since 1968) their records show that they have never been in communication with Manning. Indeed, they had never heard of him at all. They did not consult their records before 1968, but Manning's book came out well after that date. To sum up: Manning claims to have "psychically" reproduced a drawing by an artist who is long dead, without the possibility of having seen the original, and that he was contacted by the owners of the original, who verified to him that it had never been displayed or published, but was locked in their vaults. The claims are totally false.

—*J. R.*

Soviet "jellyfish UFO"

The third week of September the Soviet new agency Tass and wire services and newspapers around the world carried reports of a strange, star-like ball of light sighted over Petrozavodsk in the northwestern Soviet Union early on the morning of September 20, "spreading over it like a jellyfish."

It was a strange report indeed. "A huge star suddenly flashed out of a dark sky, sending shafts of light impulses to earth," Tass said. "This star was moving slowly toward Petrozavodsk and spreading over it like a jellyfish. It stopped and hovered over the city, sending out numerous thin light rays like a downpour of rain." The phenomenon, according to witnesses, lasted from ten to twelve minutes. It was also reported sighted over Finland. No explanations were cited in the news reports.

But the phenomenon turned out to have been due to the launch of a military spy satellite, Cosmos 955, from the top-secret Plesetsk missile base north of Moscow. The identification was made by James E. Oberg, a space specialist in Houston, an authority on the Soviet space program and a member of the new UFO subcommittee of the Committee for the Scientific Investigation of Claims of the Paranormal.

"As soon as I read the newspaper reports, I thought of a rocket launching," Oberg said. "I made a phone call to a friend of mine who keeps records of Russian satellites and, sure enough, I found that two satellites had been launched that morning." Calculations based on orbital predictions issued by NASA's Goddard Space Center in Greenbelt, Maryland, enabled Oberg to determine that the missile had blasted off a few minutes before four a.m. local time, within a few minutes on the first reports from Petrozavodsk. "The identification is 100 percent certain."

Petrozavodsk is only 200 miles southwest of Plesetsk. The satellite was launched toward the northeast, providing the surprised witnesses with a spectacular view right up the exhaust plumes.

Oberg said a rare combination of conditions of azimuth, high altitude, booster, and launch during darkness was responsible for the visual display. Such conditions occurred only three times before since the secret base was opened in 1966. On at least one of those occasions, the launch of Meteor 2, the weather satellite, in October 1969, dozens of eyewitness reports came in from observers in Finland and Sweden. An amateur astronomical society in Helsinki collected the reports and later published drawings of the phenomenon.

Nighttime rocket launchings in the United States have often resulted in UFO reports. The expanding vapor trails of the rocket engines glow in the dark and can assume odd shapes, especially when viewed from behind or below.

The vivid description of the September display is virtually identical to Finnish reports about the Meteor 2 launch eight years ago, Oberg said. The mysterious tentacles, or "shafts of light," were in fact the separate vapor trails left by the four parallel booster units attached to the core rocket stage. Films of Soviet rocket launchings show this "shaft of light" effect clearly.

—K. F.

Toronto's Maha Yoga

A German "psychic" with the unlikely name of Maha Yoga A. S. Narayana—raised in Berlin but later converted to mystic cults and religions—appeared on television in mid-October to declare various nebulous predictions to the world and to advertise that he was available for "readings" at seventy-five dollars a shot. Meeting with the producer of a prominent New York City TV interview show, the Yoga was unable to "cold-read" the subject, since the producer was an accomplished amateur performer in the same field, and refused to give any clues at all.

A sample shot was when the "psychic wonder affirmed that the subject was born in 'a town with grain elevators.' " Not so, was the

answer. "I was born right here in New York City. I've never seen a grain elevator, and don't want to." The interview rapidly deteriorated after that point.

Metromedia carried an interview with the soothsayer that evening, and part of his sooth was to predict that the Yankees would win the second game of the World Series that same night. Bad sooth. The Dodgers won it. The great Yoga told us that he had called the game correctly the previous night but failed to add that he had predicted a score of 4 to 3, not 5 to 1. He stated firmly that the Yankees would take the series—a not-surprising guess, especially since they led at that point one game to none.

The day before, "psychic" David Hoy had performed an effective mind-reading trick which he admitted was such (due, no doubt to the presence of two members of the Committee for the Scientific Investigation of Claims of the Paranormal) and then followed up with a plea for the listeners to send for his "Twelve Tips to Develop ESP" which is accompanied by a blurb advertising a full course of ESP training.

The Maha Yoga character, it turned out, is a member of the Toronto Better Business Bureau under the company name of ESPON, an official Yogi for Vic Tanney Gyms. One wonders if the Toronto BBB also accepts gypsies and card-hustlers as members. And we may look foward to Vic Tanney offering levitation courses any time now.

The point we make is that despite the bad track record of the performers, they will continue to claim "90 percent accuracy" and never be challenged on it. Countless failures are unreported and undiscovered and they throw fantastic reports and figures about like confetti. The believers—those who pay for supernatural advice and prognostications—continue to fall for this nonsense, and the perpetrators get fatter and fatter. After all, who can doubt the Better Business Bureau? —*J. R.*

Committee appeals to media

In the past six months the Committee for the Scientific Investigation of Claims of the Paranormal has held a widely reported news conference and annual meeting in New York City, called upon the NBC television network to provide more balance to its treatment of paranormal subjects, filed a complaint against the *Reader's Digest* for distortions in an article on alleged psychic phenomena, and established subsections in France and New Zealand.

Participating in the news conference at the Biltmore Hotel in New York on August 9 were Paul Kurtz, Marcello Truzzi, Ray Hyman, James Randi, Philip Klass, Robert Sheaffer, Kendrick Frazier,

and Dennis Rawlins. Several other committee members were also present.

Kurtz read a committee position statement calling upon the news media and other scientists to help provide more balanced coverage of paranormal claims and to make more strenuous efforts to sift out valid claims from unsupported ones. "We are virtually overwhelmed by pseudoscientific pro-paranormal propaganda concerning alleged phenomena which have not been properly verified under rigorous controls," the statement said. The committee lamented the inability of much of the public and segments of the news to distinguish between fiction and scientific fact, and between the untested and the tested. The committee made five recommendations:

> First, we call upon the press and the publishing industry to cooperate with members of the scientific community in providing more responsible, balanced treatment of claims of the paranormal.
>
> Second, we call upon TV and radio producers and directors to consult with scientific authorities in planning any programs that make claims about science and the paranormal. We ask that they properly identify so-called "quasi-documentaries" for what they are—a popular form of science fiction —and that they not be offered as established fact.
>
> Third, we call upon the editors of science journals and science columns to deal with the mounting tide of antiscience and pseudoscience by planning special articles and issues clarifying the nature and methods of science and by providing critiques of fraudulent or untrustworthy claims.
>
> Fourth, we call upon educators, secondary-school, college, and university faculties, to provide adequate course and curriculum materials on the aims and objectives of science, its methodology, and the methods of critical thinking.
>
> Fifth, we believe that it is essential that the general public be provided with information in understandable layman's terms concerning contemporary issues in science and have available critical scientific findings, especially in the area of the paranormal.

Participants in the news conference noted and documented a wide variety of abuses and distortions in information about alleged paranormal events reaching the public. In addition, there was one prediction: that starting around the end of 1977 there would be a flurry of new UFO reports, due not to anything new happening in the skies but to public interest generated by the major feature film *Close Encounters of the Third Kind,* scheduled for December release.

The day before the news conference, committee members met with officials of NBC to protest its airing "quasi-documentaries" on paranormal subjects: programs that explore with little attention to factual accuracy claimed para-

normal happenings and that are presented in documentary format. Examples are "Bigfoot," the "Outer Space Connection," "The Bermuda Triangle," and "In Search of Noah's Ark." NBC treatment in such presentations "constitutes in scientific terms a scandal," the committee said.

NBC defended the broadcast of such programs, telling the *New York Times* in an article on the committee's criticisms that the programs are entertainment, not news. We're not presenting these programs as fact, said spokesman George Hoover, "The only things we call a documentary is a program that's produced by NBC News." He said a program not so labeled be considered by viewers as not necessarily true. Whether viewers make that distinction between news documentaries and these "quasi-documentaries" is not known. NBC's penchant for such programs, which is giving it in some quarters the label "The *National Enquirer* TV network," has apparently not abated. On October 30 it aired "Psychic Phenomena: Exploring the Unknown."

The committee's complaint against *Reader's Digest* concerned an article in the August 1977 issue, "What Do We Really Know About Psychic Phenomena?" The statement called the article unreliable and "full of anecdotal hearsay material" with "little or no documentation or substantiated facts" and "few statistical tests." And it accused the article of ignoring nearly all negative results.

"The committee . . . considers publication of the article . . . to be a serious act of journalistic imbalance which can be very harmful to gullible individuals among your readership," a letter from the committee to the editor-in-chief of *Reader's Digest* said. "This biased article presents as fact a series of anecdotal and unsubstantiated 'psychic' experiences by individuals and pseudoscientists. It also reports 'successful' experiments of various sorts, without acknowledging that virtually all . . . were subsequently proved to be inadequately controlled, inconclusive, and in some cases, quite negative."

In a reply, Senior Staff Editor Robert N. Bischoff, issue editor for the August *Reader's Digest*, expressed regret at the committee's opinion that the article was journalistically unbalanced and defended it. "Dr. [Laile] Bartlett [the author] took such pains to be absolutely sure that her psi piece presented only what could indeed by substantiated," Bischoff wrote. "Not only did her work bear every mark of careful preparation, but also every statement made in her piece was carefully checked by our research department. We felt that Dr. Bartlett's piece was a serious and responsible look at a subject that is, admittedly, often given frivolous and irresponsible coverage." In contrast, committee member Martin Gardner said, "I think

the *Reader's Digest* article is the most irresponsible article on parapsychology that I've ever seen in a mass circulation magazine."

In another action, the executive committee elected Kendrick Frazier as editor of *The Zetetic,* succeeding Marcello Truzzi. In August Mr. Frazier left his position as editor of *Science News* (he remains a contributing editor). Future goals are to increase *The Zetetic* news coverage of all the subjects within its purview and to broaden the publication's readership.

One additional committee action has been to establish two new subsections: The one in France is headed by Yves Galifret, executive secretary of *L'Union Rationaliste*, and by Evry Shatzman, president of the French Physics Association. The other is in New Zealand, under the leadership of Richard Kammann.

—K. F.

Committee files formal FCC complaint against NBC

The Committee for the Scientific Investigation of Claims of the Paranormal has protested formally to the FCC about "Exploring the Unknown." This 90 minute special, narrated by Burt Lancaster, was broadcast on prime time on Sunday October 30, 1977 on the NBC Television Network. The complaint has been filed against NBC, its affiliated stations throughout the USA and the producer Alan Neuman Productions. The program contained twelve segments dealing with "psychic phenomena," including psychokinesis, psychic photography, levitation, fire walking, regression to another time, psychic painting, etc. Of special concern to the Committee were the segments on "psychic surgery" and "psychic healing."

The Committee maintained in its complaint that the program was totally biased. Most of what it presented as "fact" is highly questionable on scientific grounds, but the viewers were given no inkling of this. It presented a number of alleged "scientific experts," but failed to present the preponderant scientific viewpoint which is highly skeptical of such claims. Of particular concern was the medically dangerous character of the segments on "psychic surgery" and "psychic healing." NBC had consulted the Committee in preparing the program—and we recommended that they include scientists presenting the contrary viewpoint, but they declined to do so. Although, they did insert some "disclaimers" these were totally outshadowed by the overall impact of the program. The Committee has also filed a complaint with the Federal Trade Commission about the psychic surgery and psychic healing segments, especially since the FTC has already banned charter flights to the Philippines for "psychic surgery."

—Paul Kurtz

Psychic Vibrations

What was that mysterious, hairy seven-foot animal that a busload of tourists claim to have seen along a road outside Vancouver, B.C.? It was a man in a monkey suit, says the confessed hoaxer, Ken Ticehurst. "It was just a good practical joke," Ticehurst said, explaining the highly successful "Bigfoot monster" hoax that he and two friends had spent three weeks preparing. But crack reporter Don Hunter, casting a skeptical newsman's eye upon the whole affair, doesn't buy it. He says that the hoax story is "full of holes."

* * * * *

Rufus Drake, writing in *SAGA UFO Report,* has at long last succeeded in penetrating the veil of secrecy and misinformation that has for years hidden our government's covert paranormal operations. America's secret UFO investigations, Bermuda Triangle research, and attempts to communicate with extraterrestrials are all carried out at a "supersecret" facility at the Pautuxtent Naval Air Test Center in Maryland, "in a fenced-in stucco building adjacent to the mud flats." The code name for this hush-hush project? "Operation Ridicule." Where is Daniel Ellsberg now that we need him?

* * * * *

The new editors of the popular newstand publication *OFFICIAL UFO* are now telling their contributors that "the material we have used in the past has been a bit too far on the technical side." (Some technical articles from previous issues: "Telepathy and a UFO"; "Anti-Gravity: The Secret of the Flying Saucers.") Henceforth, material is being sought which is, "in general, pretty spicy." The editor suggests something along these lines: "UFO Gave Me Amazing ESP Powers"; "Are Aliens Trying To Save Us?"

* * * * *

"At any public gathering of UFO buffs," says leading UFO-research-

er Jerome Clark, at least one speaker will always point out that the celebrated "little green men" are just a myth invented by the media. But this is not true, he explains. While it *is* true that most UFO humanoids "appear to have a dark brown or pale white complexion," at least *some* of the flying saucer people spotted are indeed green, he asserts.

* * * * *

Endangered Species Department: The Committee on Environment of the State Legislature of Oregon has voted to seek legal protection for that state's supposed Bigfoot population. The measure directs citizens to exercise "caution" to avoid hurting any Bigfoot monsters.

* * * * *

Anti-establishment UFOlogist *Allen H. Greenfield fulminates that* all of the major UFO organizations are hopelessly "elitist" and "WASPy." To remedy this evil, he proposes that "a Task Force on Racism in UFOlogy should be established to assess the extent of racism, sexism, and agism involved in the practices of present and future organizations and conventions. If necessary, this should be followed by a joint committee to increase participation in UFOlogy by minority groups and women." Women and minorities are to be commended for having the good sense to stay clear of these pro-UFO cults.

* * * * *

Duane S. Elgin, long-range policy analyst ("futurologist") at the Stanford Research Institute (SRI), an influential "think tank," makes a living by preparing long-range studies on future problems and their solutions. What does he see as one of the greatest dangers facing America? A psychic "civil war" may erupt between greedy "materialists," who seek the preservation of the corrupt *status quo,* and the "transformationalists," who care nothing for material goods and wish to give away the wealth of Americans to Third World countries. The "materialists" will have lasers and atomic bombs at their disposal, but the "transies" have extrasensory powers and can psychically disable sophisticated electronic weapons at any distance. Elgin is unable to predict who will win the war. Other state-of-the-art research being carried out at SRI includes attempts at "psychokinesis" and "remote viewing" by such alleged psychics as Uri Geller and Ingo Swann, as well as monitoring Swann's recent "psychic voyage" to Jupiter. Isn't *anybody* at SRI still doing scientific research?

* * * * *

Dr. James A. Harder, director of research of APRO, one of the

largest UFO groups, told the recent FATE magazine UFO conference in Chicago that his research has revealed the true nature of the "mystery sphere" owned by some people in Florida. It is nothing less than an extraterrestrial atomic bomb, he said, constructed from elements far heavier than those existing here on earth. Harder said that if this alien nuclear bomb were drilled into, it would explode. He proposed setting up equipment in the desert to do exactly that, capturing on film the final milliseconds before the explosion, and he further proposed to have UFO skeptic Phil Klass operate the drill press (a suggestion resoundingly approved by the audience). Dr. Harder appeared to have been taken somewhat by surprise when Klass accepted the invitation without hesitation, provided that Harder make all the necessary arrangements, which would presumably include securing a special exemption from our country's nuclear test ban treaty. Klass also urged Harder to present his findings to scientists at the Pentagon to impress upon them the urgency of the situation since, if he is right, a live atomic bomb is now on the loose in unsupervised civilian hands. No reply yet from the learned Dr. Harder.

* * * * *

The Hare Krishna magazine *Back To Godhead* has informed its readers that Neil Armstrong did not make a giant leap for mankind, and neither did anyone else, because the entire Apollo moon project was a hoax. "A case of mass brainwashing," the magazine calls it. Their proof? The sun is 93,000,000 miles from earth, the astronomers say, and the sacred Vedas state that the moon is 800,000 miles farther away than that, making the moon almost 94,000,000 miles distant, according to Krishna cosmology (although astronomers say it's only 1/400 that distance). To have travelled this far in just ninety-one hours would require a speed of more than a million miles per hour, "a patently impossible feat even by the scientists' calculations." The Krishnas conclude that "the so-called 'astronauts' may have gone somewhere, but it wasn't to the moon."

* * * * *

"Son of the Republic, look and learn," said the mysterious supernatural visitor to George Washington one bleak day at Valley Forge during the darkest hour of the Revolution. So says Simon Mennick, who published his findings in *SAGA UFO Report*. The entity reportedly showed Washington visions of three great crises for America, the third one yet to come. Detailing some of Washington's "miraculous" escapes from death, Mennick concludes that Washington was clearly carrying out designs

"of some sort from a higher Authority, Power, Intelligence, or Being." Unfortunately for historians, "Washington never publicized his clairvoyant experience." So where did Mennick get his information? From one Weseley Bradshaw, pseudonym for one Charles Weseley Alexander, who claimed to have gotten it from one Anthony Sherman, age ninety-nine, who claimed to have been present at Valley Forge some eighty-two years earlier, in 1777, but he doesn't exactly say how he found out.

* * * * *

The friends of Stephan Hatzitheodorou gathered in his West Side Manhattan luxury apartment, standing over him and chanting, "Rise, Stephan, Rise." But Stephan did not rise. He had been dead for two months. Neighbors occasionally noticed a putrid smell in the hallway but thought little of it. When the police were finally called, one of the chanters explained that three days after Stephan died, "he appeared to look better," but nonetheless failed to arise.

* * * * *

"THE TRUTH ABOUT UFO'S" has been published by avant-garde UFOlogist Lou Wiedemann. He writes: "There are no such 'things' as UFOs, in that they do not have any existence independent of the mind. The fact is, the human mind has the capacity to project solid images, and these images actually become temporarily real in every sense of the word. . . . The government has suppressed this information because of the startling fact that the evidence and scientific proof also proves conclusively that *our entire reality* is made up wholly of projections from our collective unconscious." Hence if enough people should come to learn the startling truth, "our world as we know it would cease to exist! . . . This is known by a group of scientists who have discovered absolute proof of it all, and they have approached all major world governments in order to assure that steps are taken to prevent the public dissemination of this information." The ultimate weapon: convince the world that a certain country does not really exist, and then poof! Away it goes. UFOlogist Jacques Vallee also shares this general view of reality-as-consensus. He writes, "It may not be true that flying saucers represent visitors from outer space. But if large enough numbers believe it, then in some sense it will become *truer than true,* long enough for certain things to change irreversibly." Why is the ground shaking?

* * * * *

Pulitzer-prize winning critic Ron Powers has published the confi-

dential advice that media consultants Frank N. Magid Associates have been giving to TV newscasters: "Remember, the vast majority of our viewers hold blue-collar jobs. The vast majority of our viewers have never been on an airplane. The vast majority of our viewers have never seen a copy of the *New York Times* . . . in fact, many of them never read anything. . . . Ergo, keep it short, keep it simple, show them lots of pictures, make them giggle, throw in plenty of stuff about crime and flying saucers and sex fantasies." After seeing NBC-TV's misleading and sensationalist treatment of Bigfoot, ESP, UFOs, and the like (which the latest *Argosy UFO Annual* described as "outstanding, and getting better") one wonders if Magid Associates may not have also been advising NBC's programming department.

* * * * *

Columbia Pictures is leaving no stone unturned in promoting its forthcoming UFO blockbuster *Close Encounters of the Third Kind,* directed by Steven Speilberg, who gave us *Jaws.* Double-page ads were run in the Sunday *New York Times* and *Washington Post* more than six months before the movie's scheduled release. Now Columbia is offering to the major planetariums across the country a 16-mm filmed lecture on UFOs by UFO proponent Dr. J. Allen Hynek, director of the Center for UFO Studies and technical advisor to the film. By extreme good fortune, the release of Dr. Hynek's filmed UFO lecture coincides amazingly well with the scheduled release of the UFO movie into which Columbia has invested many millions of dollars. No word yet on how many planetariums are accepting the offer, but some astronomers are clearly annoyed, chiefly those who believe that the function of a planetarium is science education, not the promotion of commercial ventures which capitalize upon public credulity.

* * * * *

Title: *The Mystery of Pyramid Power.* "Cheops is surrounded with mystery . . . scientists are completely baffled at the mathematical ability used to design the structure. . . . " Is this article found in a supermarket tabloid, or perhaps a newsstand pulp magazine? Guess again: it is from *Read,* "The Magazine For Reading and English," published by Xerox Education Publications and used by many thousands of students at schools across the country. While the article does give the anti-"pyramid energy" viewpoint a chance to be heard, the young reader is given the clear impression that scientists' ranks are split concerning such questions as to whether "pyramids cause psychic energy to flow into your brain." Apparently concerned that Amer-

ica's youth do not obtain adequate exposure to occult theories outside the classroom, the Xerox Corporation is now bringing trendy pseudo-science *into* the curriculum. Students are encouraged to conduct their own experiments on the power of pyramids to preserve bananas, and to submit the results to *Read.* The Teacher's Edition concludes its pyramid discussion quoting from an unnamed scientific pyramidologist: "Call it what you will —occultism, the curse of the pharaohs, sorcery, or magic—there is some force at work in the pyramid that defies the laws of science." *Read* promises students more of such worthy pieces to follow later this year: "The Lost Continent of Atlantis": three articles on UFOs; new findings on the Loch Ness Monster. •

Von Däniken's Golden Gods

Ronald D. Story

> God will doubtless survive, sometimes under the protection of vested interests, or in the shelter of lazy minds, or as puppets used by politicians, or as refuges for unhappy and ignorant souls.
>
> —Julian Huxley, *Religion without Revelation* (1927)

Stan Lee, publisher of Marvel Comics, once said: "Nowhere else but in comic books can you still recapture the fairy tale fun of finding characters bigger than life, plots wilder than any movie, and good guys battling bad guys with the fate of entire galaxies hanging on the outcome." Lee overlooked, however, one of the hottest sensations in publishing history, the phenomenally popular, ex-hotel-manager from Davos, Switzerland —Erich von Däniken—the author who has been translated into thirty-five different languages around the world, totaling up book sales approaching thirty-four million copies.

Von Däniken's theory—that superbeings from outer space came to earth in the distant past to bestow upon us intelligence and all the rudiments of early civilization—is a view some have termed *fiction science.* The reason for this label should become clear after reading any one of von Däniken's books. There is a dearth of supporting data, an endless stream of false and misleading information, a sprinkling of truth, and some of the most illogical reasoning ever to appear in print. To compose a work of fiction-science is not difficult. As one reviewer put it: "[It is] an old cosmological recipe: simply *ad astra,* mix feverishly and half bake."

Let me say that I have no objection to honest speculation. Nor do I find anything wrong with the idea that intelligent beings from another planet *could have* visited earth in ancient times. But I have found that if

you take von Däniken's "indications," as he calls them, check them out, and subject them to the normal rules of evidence, they fall apart. For one thing, the level of technology required for the construction of the various artifacts and monuments in question never exceeds the capacities of earthmen working on their own in the normal context of their own cultures. The archaeological "wonders" that are alleged to prove, or at least "indicate," ancient astronauts is largely a collection of interesting finds, superficially described and taken out of context. But perhaps the most serious deficiency of von Däniken's whole reasoning process is the omission of highly relevant, key information that, if known, would cast an entirely different light on the subject at hand. What follows are some examples from von Däniken's showcase of "proofs" to illustrate what I mean.

The Palenque Astronaut

In the ancient Maya city of Palenque (on the Yucatan Peninsula, in the state of Chiapas, Mexico) stands a seventy-foot-high limestone pyramid called the Temple of the Inscriptions. Until 1949, the interior of the structure had remained unexplored. But when the Mexican archaeologist Alberto Ruz Lhuillier noticed finger-holes in one of the large floor-slabs, he raised the stone and discovered a hidden stairway that had been deliberately filled in, centuries ago, with stone rubble and clay. After four years of clearing away the blockage, Ruz and his workers had descended sixty-five feet into the pyramid, where he came upon a secret tomb. Little did Ruz know that twenty years later this discovery would be used as one of the "proofs" of the existence of ancient astronauts. What has attracted the attention of ancient-astronaut fans everywhere is the stone carving that decorates the tomb lid. Von Däniken describes it this way: "On the slab [covering the tomb is] a wonderful chiseled relief. In my eyes, you can see a kind of frame. In the center of that frame is a man sitting, bending forward. He has a mask on his nose, he uses his two hands to manipulate some controls, and the heel of his left foot is on a kind of pedal with different adjustments. The rear portion is separated from him; he is sitting on a complicated chair, and outside of this whole frame you see a little flame like an exhaust."[1]

Could it be that the Palenque tomb lid actually depicts a man piloting

1. Quoted from a transcript of *The Lou Gordon Program* (WKBD-TV), video-taped in Detroit, Michigan on February 27, 1976, on which the writer appeared with von Däniken in a televised debate.

plant. The whole scene is a religious illustration, not a technological one, and is well understood within the proper context of Maya art.

The Nazca Spaceport

Another ancient astronaut idea concerns the now famous desert markings on Peru's Nazca plain. About 250 miles southeast of Lima, between the towns of Nazca and Palpa, lies a barren plateau covering 200 square miles, that served as a gigantic drawing board for its ancient inhabitants. There, discernible only from the air, are over 13,000 lines, more than 100 spirals, trapezoids and triangles, and nearly 800 huge animal drawings, all etched into the desert floor by the removal of the dark surface stones exposing the lighter-colored soil underneath. Most of the lines radiate from several star-like centers and extend for miles. These markings were probably constructed (over a period of several hundred years) sometime between 400 B.C. and A.D. 900.

In his book *Gods from Outer Space,* von Däniken tells us his theory: "At some time in the past, unknown intelligences landed on the uninhabited plain near the present-day town of Nazca and built an improvised airfield for their spacecraft which were to operate in the vicinity of the earth" (Bantam paperback edition, p. 105).

There are several good reasons why the lines probably were not ancient landing strips: (1) there simply would be no need for a runway, several miles long, to accommodate a space vehicle that should be capable of a vertical landing; (2) many of the lines run right into hills, ridges, and the sides of mountains; (3) the soft, sandy soil would not be a suitable surface for any kind of heavy vehicle to land on. As Maria Reiche, probably the world's leading authority on Nazca, has said, "I'm afraid the spacemen would have gotten stuck."

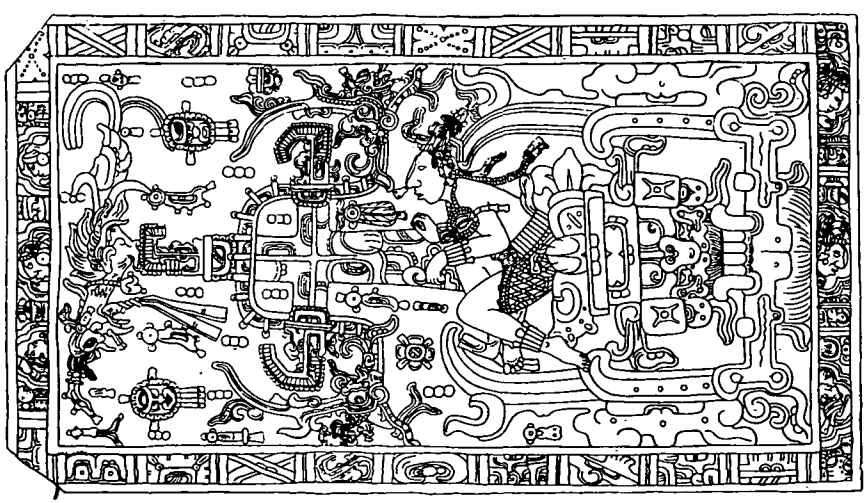
Another version of the spaceport theory maintains that the exhaust from hovering spacecraft was responsible for blowing away the sand and thus creating the lines. Again, a nice try, but this idea would seem to prove just the opposite of what its proponents intend. It is not the light-weight soil that was removed to create the lines, but rather the heavier rocks that are actually stacked in linear piles all along the sides of the lines.

What then, could have been the purpose of such an enormous array of lines, shapes and animal figures created more than a thousand years ago.

The first systematic study of the Nazca markings came in 1939 (twelve

a rocket? The notion becomes less plausible once the various elements that make up the overall design are examined separately, in detail. Notice first (in the figure below) that the "astronaut" is not wearing a space suit, but is practically naked. The man in this scene is barefoot, does not wear gloves (both fingernails and toenails are illustrated), and is outfitted in nothing more than a decorative loin cloth and jewelry. In other words, he is dressed in typical style, characteristic of the Maya nobility as to be expected at around A.D. 700. Actually, this is the tomb of the Maya king Lord-Shield Pacal, who died in A.D. 683.

The details of his royal history are well established. The glyphs carved on the frame of the sarcophagus lid, as well as other glyphic evidence found in other temples at the Palenque site, trace his ancestry and give the exact dates of when he was born, when he ruled, and when he died. When the illustration on Pacal's tomb lid is oriented correctly (vertically instead of horizontally), we can see that the "rocket" is actually a composite art form, incorporating the design of a cross, a two-headed serpent, and some large corn leaves. The "oxygen mask" is an ornament that does not connect with the nostrils, but rather seems to touch the tip of Pacal's nose; the "controls" are not really associated with the hands, but are elements from a profile view of the Maya Sun God in the background; the "pedal" operated by the "astronaut's" foot is a sea shell (a Maya symbol associated with death); and the "rocket's exhaust" is very likely the roots of the sacred maize tree (the cross), which is symbolic of the life-sustaining corn



The Palenque "astronaut."

years after their actual discovery in modern times), when Professor Paul Kosok of Long Island University first mapped and photographed them from the air. His most significant finding came, however, while he was standing on the ground gazing down one of the lines toward the setting sun on June 22, 1941. This happened to be the day of the winter solstice in the Southern Hemisphere; and the apparent alignment gave Kosok the startling idea: perhaps the lines represented "the largest astronomy book in the world." He later confirmed more than a dozen such alignments, some for the soltices and others for the equinoxes, indicating that the Nazca "landing field" very likely comprised a gigantic astronomical calendar and observatory.

It has also been found that several of the large animal drawings have solstice lines associated with them. After all, how would the Nazcans be able to recognize which lines were which, if they had not devised some reference system by which to find them later?

But the question is still asked: why would the ancient Nazcans go to such trouble to construct these markings (and especially the drawings of animals) that are recognizable only from the air? In fact, the most ideal vantage point for viewing them is *not* from hundreds of miles up, where one might expect to find an orbiting satellite or a spaceship, but rather, at a point in mid-air, about 600 feet above the plain. How then, could the

Spider depicted on Nazca plain.

early Peruvians have seen and appreciated their work without the advantage of something like an early-model helicopter?

According to a theory recently tested by the Florida-based International Explorers Society, the "chariots of the gods" that sailed over Nazca might well have been early-model smoke balloons, piloted not by alien beings but by ancient man himself. In a new book entitled *NAZCA: Journey to the Sun* (Simon & Schuster, 1977), IES member Jim Woodman presents an impressive array of evidence to support his contention that the early Peruvians knew the secret of lighter-than-air flight long before the first hot-air balloons had ever been flown in Europe.

For example, all along the Nazca plains are thousands of ancient grave-sites containing finely woven textiles (perfectly suited for a balloon envelope), braided rope (another item useful in balloon-making), and ceramic pottery. On one of the clay pots is a picture that resembles a hot-air bag complete with tie ropes. There is also the little known fact that even in modern times, the Europeans were not the first to make manned balloon flights. In the city plaza of Santos, Brazil, stands a monument to "the flying man" Bartolomeu de Gusmao, who made his first flight on August 8, 1709.

On November 28, 1975, author Jim Woodman and the noted balloonist Julian Nott actually flew a crude hot-air balloon, appropriately named *Condor I,* over the Nazca plain to prove their point. The ten-story mountain of fabric and smoke was a reconstruction based on what resources the ancient Nazcans actually had. The envelope was made of a cotton fabric similar to the cotton pieces uncovered at the grave-sites; the gondola basket (for the pilot and co-pilot) was woven from totora reeds grown in the vicinity of Lake Titicaca nearby, and was held by lines and fastenings also made from native fibers.

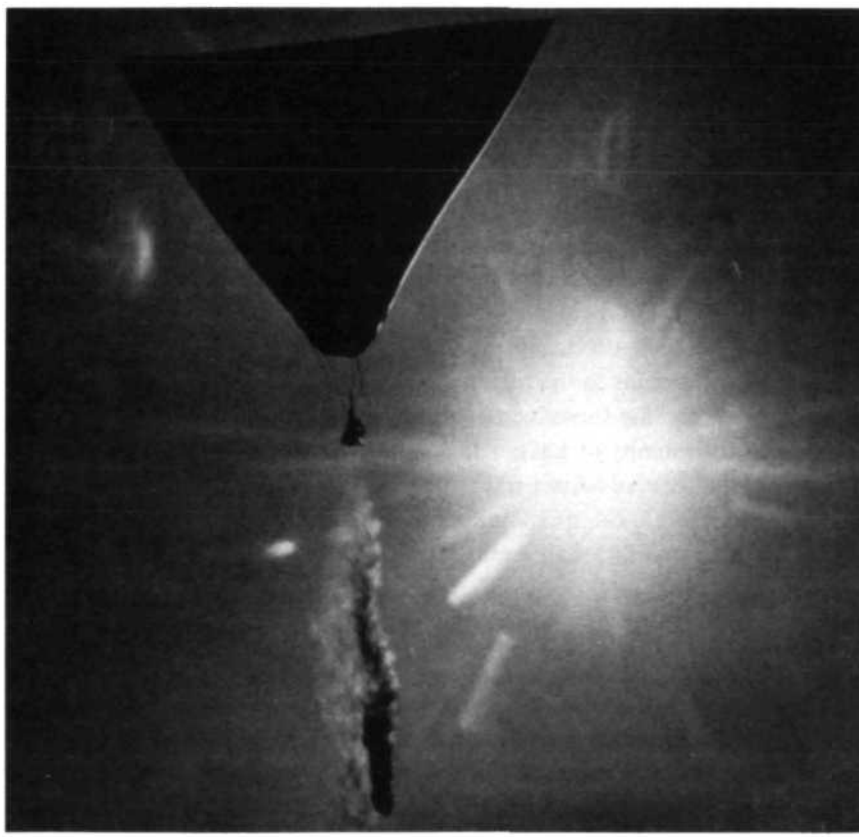
It was a remarkable example of archaeology-by-experiment, in which an ancient possibility had been demonstrated without resorting to the space-god theory.

The Piri Re'is Map

But then what about the ancient map that we have all heard about, that could only have been made from an aerial photograph taken from a great height (not from just a few hundred feet up, but from an altitude of several hundred miles above the earth)? According to von Däniken, the Piri Re'is map is "absolutely accurate—and not only as regards the Mediter-

ranean and the Dead Sea. The coasts of North and South America and even the contours of the Antarctic were also precisely delineated on Piri Re'is's maps. The maps not only reproduced the outlines of the continents but also showed the topography of the interiors! Mountain ranges, mountain peaks, islands, rivers, and plateaus were drawn in with extreme accuracy." And furthermore, "Comparison with modern photographs of our globe taken from satellites showed that the originals of Piri Re'is's maps must have been aerial photographs taken from a very great height" (From *Chariots of the Gods?*, Bantam paperback edition, pp. 14-15).

The fallacy here is simply that the map in question is not at all as accurate as von Däniken claims. The original, dated 1513, was found in 1929 in the old palace of Topkapi, as it was being converted into a



Condor I balloon in flight.

museum. What's more, all of the marginal notes that appear on the map have been translated; and the complete story of its origin is well established thereon.

Piri Re'is, a Turkish Admiral and noted cartographer of his day, drew the map from about twenty other charts which he reduced to one scale. And in so doing, certain errors appeared, which testify clearly to his limited knowledge of the geography of the world. These errors include: the omission of about 900 miles of South American coastline, a duplication of the Amazon River, the omission of the Drake Passage between Cape Horn and the Antarctic Peninsula (representing nine degrees on the map), and a nonexistent landmass (presumed by von Däniken and his disciples to be Antarctica) that is drawn about 4,000 miles north of where Antarctica should be. This says nothing of the fact that none of the mountain ranges, islands, rivers, and the coastlines are drawn true to form (especially when it comes to matching up the southernmost portion of the map with Antarctica). In other words, the map fits in perfectly well with other sixteenth century cartography and in no way can be reasonably regarded as the product of space-beings engaged in prehistoric aerial reconnaissance.

The Stone Giants of Easter Island

Next, we travel to one of the loneliest places on earth. The natives call it *Te Pito o te Henua* or The Navel of the World; but because the Dutch Admiral Jacob Roggeveen discovered this tiny dot of land in the South Pacific on Easter Sunday, 1722, it has since been known to the rest of the world as Easter Island. Of all the inhabited places on earth, Easter Island is one of the most isolated by the sea. Its location is 2,300 miles due east of Chile and 1,300 miles west of Pitcairn Island. Partly because of such extreme isolation, its prehistoric inhabitants have been regarded as one of the most curious cultures of the ancient world. They had their own system of picture-writing (unlike any other language in the world), a fairly sophisticated political and religious structure, and a tradition of stone-working that resulted in over 600 colossal heads (up to forty feet in height and weighing eighty tons) carved from volcanic stone.

The statues have inspired a long tradition of pseudoscientific speculation, the most recent "theory" being that the heads must be modeled after space-beings since (it is claimed) they do not resemble any people on earth. Actually, the main stylistic features of the stone faces do resemble the pre-

dominant facial features of the Easter Island natives, despite false statements to the contrary.[2]

But what the ancient astronaut believers really get excited about is the "mysterious" fact that the statues were ever carved out of the "steel hard" volcanic rock in the first place. Surely, they reason, this could not have been accomplished with the primitive stone picks that have been found in the local quarry.

In 1955-56, explorer-anthropologist Thor Heyerdahl led an expedition of archaeologists to Easter Island for the purpose of finding the answers to this and other puzzles. And on this expedition, which lasted six months, not only was the carving process demonstrated by the islanders themselves, but the transporting and raising of one of the statues onto its *ahu* platform was demonstrated as well.

First, the carving: the initial step was to soften the surface of the volcanic tuff with an application of water. Then, a special flaking motion was used by the carver, with the basalt tool, to cut a pair of grooves in the rock, leaving a keel in the middle, which he later knocked out. The result was an extremely efficient process by which six men actually carved the entire outline around a small-sized statue in just three days. The transporting of a twelve-ton statue was accomplished by 180 men pulling ropes attached to the stone giant's head; the body rested on a wooden sled. According to archaeologist Edwin Ferdon, who witnessed the demonstration: "To begin with, they had to pull it out of deep sand, but once it got up onto hard soil, we could have cut that crew down by at least one-half. Once they got out of the sand, they really started tearing with this thing, and we had to stop them, or they would have pulled it away from the actual site. They must have pulled it a hundred yards before we stopped them." Another statue, this one weighing about twenty or thirty tons, was raised onto an elevated masonry platform. This was done through the use of levers (three large wooden poles) and an ingenious under-building of stones. It took twelve men eighteen days to complete the job—the point, of course, being that outer-space technology was not required.

Those Gold-Filled Caves

The most controversial of von Däniken's books was *The Gold of the Gods* (1972), in which he claimed to have seen the "Golden Zoo" (a fantastic

2. A very nice comparison is shown in an illustrated article entitled "Easter Island and Its Mysterious Monuments" by H. La Fay and T.J. Abercrombie in the *National Geographic*, Vol. 121, No. 1, January, 1962, p. 99.

collection of animal statues made of solid gold) and "Metal Library" (two or three thousand gold-leaf plaques embossed with an unknown script) in a subterranean tunnel system 800 feet beneath Ecuador and Peru. In this, von Däniken's third book, we find a collection of photographs, purportedly of gold treasures, which had been entrusted to one Padre Crespi. Von Däniken writes: "Today I know the biggest treasure from the dark tunnels is not on show in South American museums. It lies in the back patio of the Church of Maria Auxiliadora at Cuenca in Ecuador. . . ." (from *The Gold of the Gods*, Bantam paperback edition, p. 21). What is the significance of this find? Quoting a South American Professor, Miloslav Stingl, von Däniken publishes this statement: "If these pictures are genuine, and everything indicates that they are, because no one makes forgeries in gold, at any rate not on such a large scale, this is the biggest archaeological sensation since the discovery of Troy" (*Ibid.*, p. 46). More about Father Crespi and the "artifacts" later.

In March, 1972, von Däniken met an Argentine adventurer-explorer Juan Moricz, who, according to the account given in *The Gold of the Gods*, was the discoverer of the caves. It is also stated by von Däniken that Moricz took him on a personal tour through the mysterious underworld. In fact, von Däniken begins his book by saying: "To me this is the most incredible, fantastic story of the century. It could easily have come straight

Raising the statue on Easter Island.

from the realms of science fiction if I had not seen and photographed the incredible truth in person" (*Ibid.*, p. 1). But when the German news magazine *Der Spiegel* dispatched a reporter to interview Juan Moricz in Ecuador, Moricz said: "Däniken has never been in the caves—unless it was in a flying saucer. If he claims to have seen the library and other things himself then that's a lie." According to Moricz, during the first week in March, 1972, von Däniken invited him over for a meal at the Atahualpa Hotel in Guayaquil, Ecuador. Here they began discussing the cave story, one detail leading to another. Moricz said: "I told him everything. For hours, for days, he squeezed it out of me." This information was later passed on to von Däniken's readers as his own experiences. What, apparently, von Däniken did not know was that the cave story was not even original with Moricz. It is said that the legend can be traced back more than thirty years to a deranged army captain named Jaramillo.

There was a cave expedition, led by Moricz, in 1969. He was accompanied by fourteen persons including a local Indian chief, Nayambi, of the Coangos tribe. Although they did find an artificially carved stone archway and some walls of carved, granite blocks, there were no gold treasures nor any evidence of our alleged astral ancestors.

Concerning Father Crespi, it is reported by *Der Spiegel* that others besides von Däniken have seen the Crespi treasure, and although there are

Archaeologist Pino Turolla in Father Crespi's "collection."

some excellent pieces (pre-eminently the stone ones), the German source says, "most were found to be imitations, made of tin and brass, like one can buy by the dozens in souvenir shops in Cuenca."

Archaeologist Pino Turolla of Miami, Florida, confirms this report and accuses von Däniken of writing a fraudulent book (*The Gold of the Gods*) with phony pictures. Turolla has, in fact, taken his own photos of the "priceless artifacts" in Crespi's collection (see photo on pg. 32) and revealed their origin. Turolla has seen the little factory clearing where, he says, the stuff is actually made by local Ecuadorian Indians. The natives then trade what is mostly junk to Father Crespi for some clothes or small sums of money. Crespi, it turns out, is a much-loved but eccentric old man who collects this stuff, which, according to one reporter, is "closer to copper plumbing than God Gold." Among the treasure, Turolla said he even saw a copper toilet-bowl float.

The von Däniken Mystique

It is time to attempt an answer to the inevitable two-part question: Why are von Däniken's theories so popular; and, Why do so many people take him seriously? I have a list of answers, none of which, in my opinion, *completely* explains the ancient astronaut craze; but perhaps, someone, someday, will probe the depths of the human brain and look more deeply into the human psyche than has been possible up to now. In the meantime, however, here is my list:

(1) A large segment of the population, a majority perhaps, does not take kindly to the concept of human evolution that modern science has developed. It is simply unflattering to them to believe that our ultimate ancestors were a form of prehistoric ape or "monkey," so to speak. A more pleasing notion, and a more traditional one at that, is that man has a supernatural origin as, for instance, is told in the Bible. Von Däniken is abiding in this respect in that he saves the supernatural part, and even makes it *appear* compatible with modern-day science.

(2) The very concept of God that most of us have been taught consists in this familiar mental image: God is a super-being from a superworld from somewhere "out there" (i.e., among the stars). This whole frame of reference fits perfectly the theme that God was an astronaut.

(3) Another feat accomplished by von Däniken was to (seemingly) reconcile modern science with a literal interpretation of the Bible. Speculations are generally more popular anyway, if they are overly simple.

Abstruse theology is just as forbidding to the mass public as is academic science. The real answer to a difficult problem oftentimes requires more mental effort than many are willing or able to muster.

(4) The theme of salvation is no doubt central to the ancient astronaut myth. What could be more appealing than beings who are godlike in their technical knowledge (which is threatening but still means so much to us) and in their wisdom (so we assume), and who could direct us in the use of advanced technology for the ultimate good of mankind? Since the gods may be our salvation, we *want* to believe in them, whether we realize it or not.

(5) A characteristic of many ancient myths is the twin godhead: the benefactor for Good and the scapegoat for Evil. In the new mythology, the astronaut-gods are primarily benefactors for good. However, they also may personify evil. A recent study undertaken by the Center for Policy Research under the direction of Dr. Clyde Z. Nunn showed that from 1964 to 1973, belief in the existence of the devil increased from 37 percent to 48 percent. A news article entitled "Demonic Believers Increase" says that Dr. Nunn "attributes the growing popular belief in the devil to a mood of 'uncertainty and stress, when things seem to be falling apart and resources seem limited for coping with it.' Nunn suggested that in a fearful world people tend to look for 'scapegoats' such as the devil." (In the light of this study, it is interesting to note some of the titles published about ancient astronauts, such as Eric Norman's *Gods, Demons and Space Chariots* and *Gods and Devils from Outer Space.*)

(6) I think it is fairly certain that two other widespread beliefs have contributed greatly to von Däniken's success: One is that something can't be printed unless it's true. The other is that if von Däniken is wrong, then scientists and theologians will come out and refute him. While corresponding with a number of scientists and editors of scientific publications, I found that most academicians, of those that were certainly capable of refuting von Däniken, simply thought it beneath their dignity to do so. The idea, to them, was not to dignify such a subject as ancient astronauts by discussing it. This attitude accomplished only one thing. It helped to enhance von Däniken's popularity.

As I mentioned at the beginning of this article, the von Däniken books have sold an astonishing thirty-four million copies. This total exceeds the twenty-five million figure of Dr. Benjamin Spock's *The Common Sense Book of Baby and Child Care*, the twelve million total of Grace Metalious's *Peyton Place*, and the twelve million copies sold of

Valley of the Dolls by Jacqueline Susann. So, whether you consider von Däniken "nonfiction" (as his publishers declare) or "fiction science," he is, as a matter of historical fact, one of the most successful authors of all time. And, although he may not have told us very much that is true about our past; he has done something that is, perhaps, more important than that. The whole ancient astronaut controversy should leave us with new insights about ourselves. If we do *not* learn anything from this experience—it could be that the world is in even more trouble than anyone thought. •

Critical Reading, Careful Writing, and the Bermuda Triangle

Larry Kusche

In August 1977, the College Entrance Examination Board issued a report concerning the causes of the continuing decline of the skills and capacities of high school students going into college. Although some of the conclusions concerning the effect of television and the breakdown of the family were necessarily subjective because of inconclusive evidence, several firm conclusions were reached. Among them is that the decline is partly because "less thoughtful and critical reading is now being demanded and done, and that careful writing has apparently about gone out of style."

Although the reference to the lack of careful writing is apparently directed toward the students themselves, it should also be taken to include the writings that the students read, virtually all of which is done by writers a generation or two older, who do not have the same excuse for sloppy research and slovenly logic and writing techniques.

Much of the reading that students now do is called "high interest reading." It has to be high interest in order to grab their attention, to compete with the likes of the Six Million Dollar Man, Woman, and Dog, the Fonz, and Darth Vader. There does not seem to be much reading being assigned, at least in the field of the "paranormal," that is highly logical or accurate. It almost seems as if there is a belief among publishers that interest and logic are inversely proportional to each other. They are not, of course, but that seems to be the prevailing belief.

A typical example of high interest reading, taken from one of the subjects of the season, the Bermuda Triangle, follows.

> The *Sandra* was a square-cut tramp steamer, decorated here and there with rust spots along her 350-foot length. Radio-equipped and loaded with 300 tons of insecticide, she leisurely thumped her way south in the heavily traveled coastal shipping lanes of Florida in June 1950.
>
> The crewmen who had finished mess drifted to the aft deck to smoke

> and to reflect upon the setting sun and what the morrow might bring. Through the tropical dusk that shrouded the peaceful Florida coastline they watched the friendly blinking beacon at St. Augustine. The next morning all were gone. Neither the ship nor the crew were ever seen again. They had silently vanished during the night under the starlit sky. No clue to help solve this baffling mystery has been found to this very day.

Mysterious wasn't it? A tranquil sea. Quiet circles of smoke slowly drifting from the deck. Twilight. A clear sky. Ah, peace. The fate of the *Sandra* has been a matter of curiosity for millions of readers in the past few years, but I wonder how many of the readers have thought about it long enough to have noticed the glaring flaws in the story. I wonder how many readers have a high enough *CQ* (Curiosity Quotient) to take just a few seconds to analyze the case.

Those with a low *CQ* ask questions like, "What strange force could possibly have caused this inexplicable loss? Why has nothing from the *Sandra* been found even to this very day? What is wrong with the area out there?" (Note that the low *CQ* questions are the same as those asked in the currently popular pro-mystery books on the subject.)

The reader with the high *CQ* would have seen warning flags all over the story of the *Sandra*. Alarm bells should have rung. Yes, there is something wrong, not so much with the *Sandra* or "out there," but with the *telling of the story itself.*

If the *Sandra* disappeared that very night, how could anyone have known and reported what the crewmen were doing as the sun set? Did the men saunter over to the rail to smoke and chat about the sunset? How could the writer have known that? Did they really see the lights of St. Augustine? Was the sea really tranquil? All these points are crucial to the loss because they indirectly set the scene—a quiet, peaceful evening. That is, after all, why the loss of the *Sandra* is considered strange. If conditions had been stormy, the loss would not be considered unusual.

Even before taking the time to check into the weather (why bother doing that—it's all documented, isn't it?), the curious, intelligent reader should already be questioning the account of the *Sandra.* How was the writer able to know what the sailors saw, thought, or said that night? Was the writer perhaps on the ship himself, luckily lifted off by helicopter or a small boat in time to miss the disappearance? Unlikely. If I had been that writer I'd have plainly stated that that was what happened.

Did the radioman send this crucial information about the scene to shore? Again, quite unlikely. One doesn't usually paint pastel pictures

over the radio. How then, could the writer know that much about what happened on the ship? How could he know if the men saw the light of St. Augustine? Did he know where the ship was at all?

The answer to the thinking person with the faintest shred of curiosity and intelligence is that the writer could *not* have known any of the "facts" he "reported." He had to have assumed them or have lifted them from someone else.

Is it nit-picking to observe that the "facts" could not logically have been known? Are these "facts" important? Obviously, they are crucially important. The writer was using a common, blatant writing technique that I call "setting the scene." The writer indirectly informs the reader that all was calm, all was right as the steamer chugged along. The crewmen obviously were not worried about any impending danger. There were no storms. It makes the "disappearance" all the more mysterious. The ship was "known" to have been off St. Augustine, practically pinpointing its area of disappearance, and making the lack of debris even more mysterious.

But, was the ship really near St. Augustine? Based on the writer's information, we cannot really know that. He says that *the crewmen saw the light,* not that anyone ever saw the ship. But he can't know what the crewmen saw. Did the ship "silently vanish"? If no one knows what happened, if no reporter was nearby taking notes, how do we know it was nice and quiet? Maybe they were fighting for their lives, but the "silent vanishment" treatment is far more mysterious. It certainly has a higher interest, as compared to just an ordinary old sinking.

All this the intelligent reader might have deduced for himself, without doing any outside research. There is not much that the writer gave us that appears to be solid. Perhaps he's right, perhaps not. Give an infinite number of monkeys an infinite number of typewriters. . . .

The writer has used another technique which I call "undue familiarity." He mentions the "rust spots along her 350-foot length," implying that he, personally, knows about the old *Sandra.* After all, if he can describe it in that precise detail, he must have some firsthand knowledge. Perhaps he was the one who spotted it off St. Augustine. He really does his research, doesn't he?

There is just one problem here. Upon checking with Lloyd's of London I learned that the *Sandra* was only 185 feet long, just about half what the writer said it was. Now about those rust spots and the writer's apparent familiarity with the ship. . . .

Neither the length of the ship nor the spots are crucially important, of course; but they do point out, once again, that the writer's credibility is very low. Almost everything he has said is blatantly in error, or is speculation. The true length of the ship is of some importance, however, since we can probably assume that a 350-foot ship would handle weather, if it were bad, better than a 185-footer.

But the incident is still unexplained despite all the obvious erroneous assumptions and errors. The (rare) diligent reader who is interested in following up on the case might contact the weather bureau's record center in Asheville, North Carolina, and ask for the records for June. The result is that he would find that the weather *was* excellent, just like the mystery purveyors said. Now we're really stumped. Perhaps there is something "out there" after all. A ship simply cannot disappear without a trace in perfect weather.

So our diligent researcher keeps trying. Any research on a missing ship would be incomplete without contacting Lloyd's of London. Lo! What do we find there? The mystery monger made another error! The *Sandra* did not sail in June, it sailed on April 5. The weather records are now checked for the proper month, and this time we find that beginning the day the *Sandra* sailed from Savannah, and for the next few days, the Atlantic shipping lanes off the southeast United States were buffeted by winds up to seventy-three miles an hour, only two miles an hour under hurricane strength.

All the basic "facts" as presented in the mystery of the *Sandra* are now shown to be wrong. Read again the "mystery" and compare what the writer said to what really occurred. Crewmen drifting to the deck to smoke? Watching the peaceful Florida coastline? Seeing the friendly little old beacon at St. Augustine? Silently vanishing? The near hurricane does change the situation just a bit.

Yet, a number of writers have used the *Sandra* as further "proof" that something strange is going on "out there." They failed to prove their theory, but they have helped confirm one of mine, that the less a writer knows about his subject, the better equipped he is to write a mystery about it. Ignorance of the subject is, in fact, a major technique in writing about the mystery of the Bermuda Triangle and other subjects in the so-called paranormal as well. Some critics of the Bermuda Triangle refer to it as science fiction, but that is an unfair description. Unfair, that is, to science fiction. The Bermuda Triangle, as well as many other "paranormal" topics, might more properly be called "fictional science."

Many people find the "mystery," full of illogic and errors that they are unaware of, to be of a higher interest than the correct answer, of the detective work necessary to track it down. Those people who revel in the uncritical claims of pseudoscience, of the "paranormal," might properly be called the "pseudocurious" or the "paracurious." They claim to want the truth, but they really don't want it. They watch Alan Landsburg's "In Search Of" television program and believe that, because *TV Guide* and Leonard Nimoy say so, that it is a documentary. They read the tomes of Berlitz, Winer, Spencer, Jeffrey, Godwin, and Sanderson and boggle their minds, as they say. Yet all these books are chock full of examples such as the *Sandra*, confirming the complaints of the College Entrance Examination Board. Careful writing, at least in the area of the pro-paranormal, has gone out of style, and the readers *are* less critical. The readers claim to be seeking illumination but are, in fact, only seeking light entertainment. There will always be plenty of Barnum, Bailey, and Berlitz writers and publishers around to satiate their hunger and further erode their logic. •

Pseudoscience at Science Digest

James E. Oberg and Robert Sheaffer

One popular publication recently went to press telling its readers that the Apollo 11 astronauts were followed to the moon by "a mass of intelligent energy." In the same piece it was also claimed that "telepathic contact with UFOs occurred at the Pentagon as long ago as 1959." The very next issue sported a doctored NASA photograph, with an arrow pointing to "an unidentified object" that does not appear on original NASA prints.

Is this publication *The National Enquirer,* or some other sizzling sensationalist tabloid? Guess again! It was none other than *Science Digest,* which was until recently one of the most reliable sources of science information for the layman. The wilder UFO-clubs, unscrupulous UFO authors, and many tabloid publications have long relied on such fare. But it is totally unexpected to find a respected magazine such as *Science Digest* exploiting such sensationalist material.

James Mullaney, author of the UFO story in the July *Science Digest,* suggests that "UFOs are teaching devices leading mankind into the future." His claim that UFOs were contacted "telepathically" at the Pentagon has been widely reported in UFO circles, despite the fact that no one has ever produced any documentation whatsoever to support this claim. UFO subcommittee investigations using the Freedom of Information Act and other sources suggest the "telepathic UFO contact" story to be utterly without foundation. However, neither Mullaney nor the editors of *Science Digest* seem to have made any attempt whatsoever to verify this startling assertion.

Mullaney repeats the *U.S. News & World Report* guffaw of April 18, 1977, which promises that the government—or perhaps the President himself—will release "unsettling disclosures" from the CIA files about UFOs before the year is out. This piece is generally regarded as having been triggered by Jody Powell's uninformed pledge to declassify all of the

Air Force's files on UFOs: an action that had already been taken by the Ford administration. *U.S. News*—and now *Science Digest*—have blown up the incident almost beyond recognition.

James Mullaney also uses the pages of *Science Digest* to regurgitate the squalid results of one of the most infamous space hoaxes of the decade. A Japanese UFO editor named Matsumura published a series of NASA photos in his magazine in 1974, after which Robert Barry (a far-out buff whose "Twentieth Century UFO Bureau" is intimately associated with fundamentalist preacher Carl McIntyre's organization) passed the photos to an editor of the tabloid weekly *Modern People* in 1975. They created such a sensation that they were reprinted in a special magazine *People UFO,* edited by Tony Richards, which is still being sold. (NASA is "hiding" UFO photos, claims the ad.) Some of these photos even have graduated to the hardcover UFO market. But the former NASA photos have suffered airbrushing, cropping, and "contrast enhancement" whose result is to produce counterfeit UFOs out of reflections, glares, and other ordinary spaceflight visual effects. It is to one of these Japanese forgeries that Mullaney is alluding when he claims that the Apollo 11 crewmen were followed by "a mass of intelligent energy." The assertion that the astronauts remarked on such an apparition over the radio is an out-and-out fantasy.

The August *Science Digest* contains a piece by longtime UFO buff Don Berliner, charging the Air Force with "censorship" and "coverup" of UFO data, even though all of the Air Force's UFO files have been declassified and made easily available to the public at the National Archives in Washington. How does this constitute a "coverup"? Most of the *names* of the UFO witnesses have been removed from the records, as required by federal law in the recently-passed Privacy Act. (Prior to the passage of this act, Berliner and many others were granted free access to the files *and* the names at the Air Force Archives at Maxwell Air Force Base, Alabama.) Yet Berliner—and *Science Digest*—sneer that this is only "the official explanation," and hint at motivations far more sinister. The August issue also contains a story on how satellites can be used to track ships which might otherwise vanish in the dreaded Bermuda Triangle, and it contains a notice of the publication of a new science book: *What Your Aura Tells Me,* by alleged psychic and UFO contactee Ray Stanford.

The single photo used with the Berliner article allegedly shows an "unidentified object," which supposedly was photographed by the Apollo 11 astronauts. The original photo, before the artist got to it, does indeed

The northern hemisphere, showing the U.S. north of Cape Hatteras to San Diego; all of Canada, Greenland, Iceland, and the North Pole. Photographed from Apollo 11. Arrow points toward an unidentified object.

26 SCI/DI AUGUST 1977

Photo as published in *Science Digest*.

Original NASA photograph, with insulation fragment at right.

show an odd-shaped object which the astronauts photographed while they were taking tourist photos of the earth, soon after they had separated from their S4B rocket. The obvious fragment of torn insulation is one of hundreds which can be seen on a typical space mission.

But in the photo published in *Science Digest,* the insulation fragment was airbrushed out. Instead, a nondescript white blob appears near the center of the photo, labeled as an "unidentified object." *This object does not appear on the original NASA photograph* (see photos on page 43). Where could it have come from?

Science Digest's chief editor, Daniel Button, vehemently insists that he did not add the spurious "unidentified object" to the photograph, although he admits retouching out the insulation fragment, so as to not distract the reader from the supposedly "true" unidentified. The "mystery object" was on the photograph when he obtained it from NASA headquarters in Washington, Button says. Then why do all other copies of the NASA print, except the one at *Science Digest,* show nothing at all where Button's UFO is supposed to be? Mr. Button has an explanation: because *Science Digest* has requested the photograph, NASA has begun to "retouch" the photo so that the object no longer appears! "My suspicion is right now that NASA has changed its policy and changed its story and altered its negatives and prints," he stated. If Mr. Button is correct, NASA's massive retouching effort must have been phenomenally effective, affecting even the first transparencies made from the flight films at the photo archives of the Johnson Space Center in Houston, which one of us (JEO) has examined and found not to contain Button's UFO. NASA's chief photo archivist in Houston, Richard Underwood, has stated to us in writing that he developed the original negative himself, and that it never has contained any such object. Indeed, NASA's censorship must even extend backwards in time, altering prints which had left their office long before they were panicked by the enquiries of *Science Digest.*

While the editors of *Science Digest* are trying to pooh-pooh the significance of this UFO misinformation, their blunders have been enshrined for all time in the *Reader's Guide to Periodical Literature,* to lay in wait as a snare for future researchers. Perhaps the circulation crunch, which has seen four editors in the past four years desperately trying new promotional gimmicks to keep this Hearst Corporation magazine in the black, has dulled the editors' sense of journalistic responsibility. •

Do Fairies Exist?

Robert Sheaffer

Do fairies exist? At first the question seems too absurd to ask. Of course not! So deeply-ingrained is our cultural prejudice against fairies that we use the phrase "fairy tale" to refer to a story we deem to be totally unworthy of belief.

But should this be so? After all, in recent years many persons carrying the highest academic and professional credentials have publicly stated their belief in the reality of such mysterious alleged phenomena as UFOs, ESP, and metaphysical spoon-bending. Are fairies any more absurd than these?

If you say "Yes!" it is probably only because you, like so many others, are unaware of the large body of reliable eyewitness testimony, *from our own Twentieth Century,* of persons who report seeing creatures, often complete with wings, Pan's pipes, and ruffled Elizabethan collars cavorting among the flowers. We even possess *actual photographs* of tiny winged-creatures, dressed in flowing robes, dancing in the forest, and gathering hare-bells. These photos have been subjected to the most careful expert scrutiny and have been pronounced to be authentic. *The evidence for fairies is of the very same kind* as that which has persuaded so many sober and learned persons of the reality of UFOs and similar phenomena. Hence we scientific UFO researchers must take reports of fairy sightings very seriously, indeed.

Like sightings of UFOs, fairy sightings appear to occur in waves. Many waves have peaked in bygone centuries, when no accurate records of sightings were kept, and hence little further investigation is possible. But many people seem unaware that a major "flap" of fairy sightings occurred as recently as 1917-1921. Fortunately for present-day researchers, these sightings were painstakingly researched and documented by a learned man of the highest caliber: none other than the celebrated Sir Arthur Conan Doyle.

Everyone is familiar with Doyle as the author of the perennially popular stories about Sherlock Holmes, the master detective. Not as well known today is Doyle's real-life role as a scientific investigator of the paranormal, especially in Spiritualism and related fields. Present-day scientific researchers of the paranormal, who follow in Doyle's footsteps (especially in his uncanny ability to sniff out hoaxes and deceptions), owe him an unacknowledged debt of gratitude.

Doyle set up, in essence, a "clearing house" for fairy sightings, where individuals could report their experiences without fear of ridicule. Names were never released without the witness's permission. Over a period of several years he compiled an impressive list of firsthand close-encounter fairy sightings, from entirely reliable witnesses. Here are some examples.

The Reverend Arnold J. Holmes of the Isle of Man reports the following close-encounter sighting, which occurred on a deserted road one night: "My horse—a spirited one—suddenly stopped dead, and looking ahead I saw . . . what appeared to be a small army of indistinct figures—very small, clad in gossamer garments. . . . I watched spellbound, my horse half mad with fear . . . one "little man" of larger stature than the rest, about fourteen inches high, stood at attention until all had passed him dancing, singing with happy abandon, across the Valley fields towards St. John's Mount" (Doyle, 1972). In this instance *the horse* reacted to the fairies' presence, proving beyond all doubt that these creatures were not merely illusory. UFO investigators consider reports of animal reactions to UFOs to be a strong indication that a sighting is authentic. We must find it equally convincing when examining the fairy evidence.

Mrs. Rose of Southend-on-Sea reported: "I see them constantly here in the shrubbery by the sea . . . the gnomes are like little old men, with little green caps, and their clothes are generally neutral green. The fairies themselves are in light draperies . . . the fairies appear to be perpetually playing, excepting when they go to rest on the turf or in a tree. . . . I have seen the gnomes arranging a sort of moss bed for the fairies. . . . " Some would dismiss the report of Mrs Rose because she is a "repeater," claiming to have witnessed the phenomenon on more than one occasion. But some of our best UFO evidence was likewise gathered from repeaters. The McMinnville photos of 1950 are a notable example, and the prolific Danish UFO photographer Jorma Viita has sighted UFOs no less than sixteen times in one year. Both of these series of photographs are taken very seriously by scientific UFO investigators. Hence there is no reason to

doubt the observations of Mrs. Rose.

Mrs. Ethel Enid Wilson of Worthington said, "I have often seen them on fine sunny days playing in the sea, and riding on the waves, but no one I have ever been with at the time has been able to see them, excepting once my little nephews and nieces." This aspect of subjective visibility is frequently encountered in UFO reports. "They were like little dolls, quite small, with beautiful bright hair, and they were constantly moving and dancing about."

Fairy sightings, like UFO sightings, constitute a truly worldwide phenomenon. Sightings poured in not only from all over England, but from Canada, the United States, and other countries as well. From the Maori districts of New Zealand, Mrs. Hardy reports: "One evening when it was getting dusk I went into the yard to hang the tea-towels on the clothes-line. As I stepped off the verandah, I heard a soft galloping coming from the direction of the orchard . . . suddenly a little figure, riding a tiny pony, rode right under my uplifted arms. I looked round, to see that I was surrounded by eight or ten tiny figures on tiny ponies . . . at the sound of my voice they all rode through the rose trellis across the drive . . . I heard the soft galloping dying away into the distance."

Sir Arthur expresses a certain reservation about the inclusion of little fairy horses in this fairy sighting, although he notes that such horses are also mentioned in other accounts. Always of a skeptical and cautious mind, Doyle carefully observes, "I have convinced myself that there is overwhelming evidence for the fairies, but I have by no means been able to assure myself of these adjuncts."

Are all fairy sightings single-witness cases? Not at all! Mr. Lonsdale, in the company of Mr. Turvey, was sitting perfectly still in the garden of the latter's estate in Bournemouth, England, one warm summer day, when "Suddenly I was conscious of a movement on the edge of the lawn. . . . In a few seconds a dozen or more small people, about two feet in height, in bright clothes and with radiant faces, ran on to the lawn, dancing hither and thither." He whispered to Mr. Turvey, "Do you see them?"; his companion nodded. For four or five minutes these fairies danced about "in sheer joy." One of them grabbed a croquet hoop like a horizontal bar and gaily tumbled round and round. They remained until they were frightened off by a servant bringing tea.

Here we have the firsthand testimony of two entirely credible persons, who report watching fairy revels at close range in full daylight. Clearly this is no misidentification of some ordinary phenomenon! Doyle also

chronicles an even more remarkable three-witness sighting, which we will examine later. Testimony such as this would be accepted in any court of law. How long can the skeptics continue to scoff at such overwhelming evidence? We cannot deny the existence of fairies unless we also are willing to throw out all the equally credible reports of phenomena such as UFOs and the Loch Ness Monster. In arguing for the fairies' existence, Doyle observes that "Victorian science would have left the world hard and clean and bare, like a landscape in the moon." How apt a description of those narrow souls we refuse to consider the evidence for UFOs and fairies!

In Doyle's book *The Coming of the Fairies* we find many more such reports. Even if the above accounts were the only ones on record, open-minded scientists would have to take the fairy phenomenon very seriously, indeed. But the most convincing fairy evidence in Doyle's files has not yet been presented: *a series of five photographs was obtained, each one showing one or more winged fairies frolicking in the forest.* The negatives of these photographs have been carefully examined by expert photographers, who agree that they show no signs of trickery whatsoever!

The story of these remarkable photographs begins in the village of Cottingley in Yorkshire, in the summer of 1917. Elsie Wright, sixteen, and her cousin Frances Griffiths, ten, both claimed that they often saw fairies in the Cottingley beck and glen while they were outside playing. Elsie implored her father to let them borrow his newly acquired camera (a type which holds only a single-exposure glass plate). When he agreed to her request, the girls returned later that afternoon with a plate that, when developed, contained the image of Frances standing behind a grouping of five winged, dancing fairies. The fairies, which appear to be about six inches high, are dressed in flowing robes and seem to be dancing in sheer joy, to the music played on a Pan's pipe by the fairy in the center.

A second photograph was obtained two months later, which shows Elsie beckoning onto her knee "the quaintest goblin imaginable." The gnome (its more accurate designation), like the fairies, appears to be less than a foot in height, and it, too, has wings. It is wearing a pointed hat, a ruffled Elizabethan collar, and is carrying a Pan's pipe.

Three years later, in the summer of 1920, the girls obtained three more clear and distinct photographs of fairies. (The elves, goblins, brownies, and nymphs, which the girls also report seeing, were apparently unwilling to permit themselves to be photographed.) The second series of photographs depicts Frances and the leaping fairy; a fairy offering posy of

hare-bells to Elsie; and most remarkable of all, the fairies and their sun-bath. This last photograph clearly shows the fairies relaxing in the tall grass, standing in and around a cocoon-like object which is said to be a "magnetic bath," of which the fairies partake in inclement weather. The respected Conan Doyle found the photo of the fairy sun-bath to be the most impressive of all: "Any doubts which had remained in my mind as to honesty were completely overcome, for it was clear that these pictures, specially the one of the fairies in the bush, were altogether beyond the possibility of fake."

Photographic experts echoed Sir Arthur's endorsement. Mr. H. Snelling of Middlesex, a photographer of many years' experience who was himself a specialist in trick photography, examined the negatives and found no evidence of trickery whatsoever. In fact, he declared himself willing to stake his reputation that the photo had not been faked! The photos were also taken to an office of the Kodak corporation in England. The Kodak experts stated that while a skilled photographer *might* be able to fabricate photos such as these, they found no evidence whatsoever to indicate that the fairy photographs were not authentic.

As if the photographic evidence alone presented by Frances and Elsie were not totally overwhelming, they have given verbal testimony, *in conjunction with a third independent witness*, which makes the Cottingley sightings among the most solidly attested observations of *any* paranormal phenomenon. Frances and Elsie, accompanied by a "clairvoyant" whom Doyle does not name (identified elsewhere as Geoffery L. Hodson, a leading Theosophist writer), ventured into the fairy glen on several different evenings. On these occasions *all three of them* reported seeing a wide variety of manifestations of fairy phenomena. Surely three people cannot all share the same hallucination!

Many famous UFO researchers place great emphasis on the psychic aspect of UFOs; for example, see Dr. Jacques Vallee's recent book, *The Invisible College*, in which "The Psychic Component" of the UFO phenomenon is explored. Hence the observations of as gifted a clairvoyant as Mr. Hodson are especially significant.

Here is a summary of their field observations during the month of August 1921:

> —*Water Nymph:* "In the beck itself . . . an entirely nude female figure with long fair hair . . . I was not sure whether it had any feet or not. . . . It showed no consciousness of my presence, and, though I waited with the camera in

hand in the hope of taking it, it did not detach itself from the surroundings in which it was in some way merged."

—*Wood Elves:* "Two tiny wood elves came racing over the ground past us as we sat on a fallen tree trunk. . . . As Frances came up and sat within a foot of them they withdrew, as if in alarm, a distance of eight feet or so. . . . These two live in the roots of a huge beach tree."

—*A Brownie:* "He is rather taller than the normal, say eight inches . . . bag-shaped cap, almost conical, knee breeches, stockings, thin ankles, and large pointed feet—like gnomes' feet."

—*Fairies:* "There is a tinkling music accompanying all this. . . . Frances sees a small Punch-like figure, with a kind of Welsh hat, doing a kind of dancing by striking its heel on the ground and at the same time raising his hat and bowing. Elsie sees a flower fairy, like a carnation in shape . . . I see what may be described as a fairy fountain about twenty feet ahead. . . . This was also seen by Frances."

—*Goblins:* "A group of goblins came running towards us from the wood to within fifteen feet of us. They differ somewhat from the wood elves. . . ."

"All three of us keep seeing weird creatures as of elemental essence."

It is interesting to note that as of the time of this writing, more than fifty-five years after those remarkable nocturnal sightings in the fairy glen, all three witnesses—Frances, Elsie, and Mr. Hodson—are still living. (Perhaps there is something in the fairy aura that is conducive to longevity? Mr. Hodson is today more than ninety years old and is living in New Zealand. Elsie and Frances are about seventy-five and seventy, respectively.) And all three of them continue to adhere to their story: they insist that the fairy photographs are authentic! As the noted UFO writer Jerome Clark observed in a recent issue of FATE magazine (February 1977): "It now remains for the skeptics to explain (1) how Elsie and Frances could have faked the pictures in the first place and (2) why they continue to insist they did not, long after they have no reason to lie." The skeptics have totally ignored Mr. Clark's ringing challenge. They know when they are beaten.

Multiple independent witnesses. A series of photographs. Worldwide sightings. Close encounter cases. Certainly Conan Doyle did not exaggerate when he described the evidence for fairies as "overwhelming." As he observes, with logic worthy of his detective Sherlock Holmes: "these numerous testimonies come from people who are very solid and successful

in the affairs of life. One is a distinguished writer, another an opthalmic authority, a third a successful professional man, a fourth a lady engaged in public service, and so on. To wave aside the evidence of such people on the ground that it does not correspond with our own experience is an act of mental arrogance which no wise man will commit." In short: credible persons reporting incredible things.

Fairies *do* exist, as the evidence most convincingly demonstrates. The truly scientific mind cannot permit itself to reject such solid evidence out of hand, merely because it does not fit in with popularly-accepted patterns of thought. Tiny gossamer-draped fairies and gnomes, often with wings and Pan's pipes, unquestionably *do* exist, as the evidence so unambiguously shows. To deny such evidence is tantamount to denying the existence of UFOs, the Loch Ness Monster, Bigfoot, and Spontaneous Human Combustion, the evidence for which has been so painstakingly gathered by so many forward-thinking researchers over so many years.

The time has come to end more than a half-century of buffoonery. Do we have to give a day in court to the man who says winged fairies are all nonsense? Hell! One could expend all one's energy confronting the skeptics. Why waste time on people who have not bothered to learn the basic facts? It's their problem!

To remedy this situation, I hereby announce the formation of an organization which is long overdue: APRON, the Anomalous Phantasmagorical Research and Observation Network. This is a loose association of skilled field investigators and Tarot card readers, in which dedicated professionals will pool their talents to give reliably-witnessed fairy encounters the sensible scientific scrutiny they have so long been denied.

Among the principal activities of APRON will be public relations, compiling a computer catalog of close encounters of the third kind, public relations, publication of a newsletter to disseminate the latest scientific fairy research findings, public relations, computerized edge enhancement and profile analysis of fairy photographs, as well as the usual fund-raising and promotional activities, and public relations.

As president and founder of APRON, as well as the chief gossamer guru, I will be kept quite busy making radio and TV appearances, granting newspaper interviews, attending scientific fairy conferences, and presenting my research findings to foreign governments as well as to the United Nations. Please do not bother me by sending in any more reports of fairy sightings. I won't have time to read them.

References

For further fairy research, see:

Doyle, Sir Arthur Conan. 1921. *The Coming of the Fairies.* New York: Samuel Weiser Inc., reprinted 1972.

Gardner, Edward L. 1945. *A Book of Real Fairies: The Cottingley Photographs and their Sequel.* London: Theosophical Publishing House, Ltd., reprinted 1966.

(Both of these books are available from Samuel Weiser, Inc., 734 Broadway, New York, N.Y. 10003.)

The original materials concerning the Cottingley incident, including the photographs, correspondence, and related items, have been donated to the Institute of Dialect and Folk Life Studies, Brotherton Collection, The Brotherton Library, University of Leeds, Leeds LS2 9JT, England. •

Einstein and ESP

Martin Gardner

Einstein is frequently mentioned in the literature of parapsychology as a great scientist who, in contrast to so many of his colleagues, believed that psi phenomena had been demonstrated by the work of J. B. Rhine and his successors. In 1930 when Upton Sinclair published his book *Mental Radio,* Einstein contributed a brief preface to the German edition. In the American edition, the preface reads as follows:

> I have read the book of Upton Sinclair with great interest and am convinced that the same deserves the most earnest consideration, not only of the laity, but also of the psychologists by profession. The results of the telepathic experiments carefully and plainly set forth in this book stand surely far beyond those which a nature investigator holds to be thinkable. On the other hand, it is out of the question in the case of so conscientious an observer and writer as Upton Sinclair that he is carrying on a conscious deception of the reading world; his good faith and dependability are not to be doubted. So if somehow the facts here set forth rest not upon telepathy, but upon some unconscious hypnotic influence from person to person, this also would be of high psychological interest. In no case should the psychologically interested circles pass over this book heedlessly.

Parapsychologists, and journalists who write about the paranormal, often refer to this preface, sometimes quoting from it, as evidence of Einstein's belief in ESP. R. A. McConnell, for example, in his influential article, "Parapsychology and Physicists" (*Journal of Parapsychology,* Vol. 40, September 1976), lists Einstein, along with William Crookes, Oliver Lodge, and other physicists, as one of the "Titans" who were sympathetic toward psi research. A portion of Einstein's preface is quoted.

An even longer quotation appears in chapter 7 of *Mind-Reach,* the recently published book by Russell Targ and Harold Puthoff. The chapter

is about their work with Uri Geller—tests which they are convinced demonstrated beyond any doubt the clairvoyant powers of the Israeli psychic. To put their Geller experiments in perspective, and to argue that Geller's ability is not unique, they bring up Sinclair's book, quote from Einstein's preface, and ask, "Why then has this treasure trove of a book been neglected for the past forty-five years?"

It is not my purpose to explain here why I do not believe Sinclair's book should be taken seriously, because I have summarized my reasons in chapter 25 of my 1952 book, *Fads and Fallacies in the Name of Science.* If the reader will consult this book's index for page references to Sinclair, they will understand why I regard him as sincere and honest, but incredibly gullible. He had only the dimmest grasp of scientific method and (in my opinion) was an unreliable observer and reporter of the uncontrolled, informal ESP-tests he conducted with his wife.

My purpose now is merely to reproduce, with the permission of the Einstein estate, a letter that Einstein wrote in 1946 to Jan Ehrenwald, and which came into my hands by way of physicists John Stachel and E. T. Newman. Dr. Ehrenwald is a British psychoanalyst now living in New York City where he is a consulting psychiatrist to Roosevelt Hospital. For thirty years he has been studying psi phenomena and seeking a neurological basis for it. He is the most distinguished of a trio of living psychoanalysts (the other two are Jule Eisenbud and Montague Ullman) who are firm believers in psi. Next year Basic Books will publish Ehrenwald's latest book, *The ESP Experience: A Psychiatric Validation.*

A translation of Einstein's letter (the original is in German) follows:

Dear Dr. Ehrenwald: 13 May 1946

I have read with great interest the introduction to your book,[1] as well as the story of all the unpleasant experiences you have suffered, as many others among us have. I am happy that you succeeded in emigrating to this country, and I hope that you will find here the possibilities for fruitful work.

Several years ago I read the book by Dr. Rhine. I have been unable to find an explanation for the facts which he enumerated. I regard it as very strange that the spatial distance between (telepathic) subjects has no relevance to the success of the statistical experiments. This suggests to me a very strong indication that a nonrecognized source of systematic errors may have been involved.

1. Dr. Ehrenwald had sent Einstein a copy of his book, *Telepathy and Medical Psychology* (London: Allen and Unwin, 1946).

I prepared the introduction to Upton Sinclair's book because of my personal friendship with the author, and I did it without revealing my lack of conviction, but also without being dishonest. I admit frankly my skepticism in respect to all such beliefs and theories, a skepticism that is not the result of adequate acquaintance with the relevant experimental facts, but rather a lifelong work in physics. Moreover, I should like to admit, that, in my own life, I have not had any experiences which would throw light on the possibility of communication between human beings that was not based on normal mental processes. I should like to add that, since the public tends to give more weight to any statement from me than is justified, because of my ignorance in so many areas of knowledge, I feel the necessity of exercising utmost caution and restraint in the field under discussion. I should, however, be happy to receive a copy of your publication.

With many regards,
Albert Einstein

It is worthy of note that Einstein's main reason for skepticism is the fact, so often emphasized by Rhine, that reported psi forces do not decline with distance. All of the four known forces of nature—gravity, electromagnetism, the strong force, and the weak force—diminish in strength as they radiate from a source. Rhine has always considered this proof that psi forces lie entirely outside the bounds of known physical laws. In recent years, attempts to explain psi's independence of distance (as well as time!) have been varied—currently fashionable attempts draw on quantum mechanics—but none has been satisfactory or amenable to confirmation. Einstein found it easier to apply Occam's razor and adopt the simpler explanation: namely that some sort of bias, of which experimenters were unaware, entered into the experimental designs of psi experiments and accounted for the statistical results. If so, the failure of psi to decline with distance and time would be easily accounted for.

Einstein mentioned in his preface one possible source of bias in Upton Sinclair's tests. To spell it out: perhaps Mrs. Sinclair unconsciously suggested to her husband what he should draw, or he unconsciously suggested to her what she should draw. To give another instance, consider the possible role of hand-recorded errors in Rhine's early and poorly controlled PK experiments with dice. If bias were introduced by recording errors on the part of assistants who knew the target number (tests by psychologists have shown how common such recording errors are), it obviously would not matter in the least whether the subject was ten feet from the tumbling cubes, or ten miles, or in a submarine ten fathoms

down, or on a spaceship ten thousand miles out. It would not even matter if the dice were shaken and tossed ten hours after the subject had concentrated his PK energy on the target.

This independence of psi from time and space continues to be a dramatic and troubling aspect of psi research. A splendid example is provided by the latest remote-viewing tests of Puthoff and Targ. In their project "deep Quest," psychic superstars Hella Hammid and Ingo Swann were in a minisub, submerged off the coast off Catalina Island. They managed to describe the target sites, 500 miles away on land, as accurately as they had done in previous tests on land when the targets were nearby. In *Mind-Reach* the authors report that Ms. Hammid also did just as well in her remote viewing when the targets were randomly selected *after* she had made her report.

In his characteristically simple, humble, commonsense fashion, Einstein went directly to the hub of the matter. After a century of reporting of results by parapsychologists, the indifference of psi to all the rules that govern known forces continues to be (along with replication failures by unbelievers) a major reason why the majority of psychologists remain, like Einstein, highly skeptical of the reported extraordinary results.

N-Rays and UFOs: Are They Related?

Philip J. Klass

Critics of organized science's lack of interest in tales of unidentified flying objects (UFOs) see a striking parallel to the skepticism of the French Academy of Sciences in the eighteenth century toward stories of "stones that fell from the sky"—stones that today are known as meteorites.

These critics would do well to study the more recent foibles of the French Academy of Sciences in its gullible acceptance of the reported discovery of "N-Rays" at the turn of the century. An excellent account can be found in the book *Doctor Wood* by William Seabrooke, (New York: Harcourt, Brace and Co., 1941), the biography of Dr. Robert W. Wood, the American scientist who exposed what Seabrooke has called "the most extraordinary scientific delusion of modern times."

In the final years of the nineteenth century, European scientists were discovering mysterious, invisible rays. First it had been Germany's Roentgen with his X-rays, followed by France's Henri Becquerel and the mysterious rays emitted by pitchblend (today known as nuclear radiation). Then, in the fall of 1903, another French scientist reported still another remarkable new ray. The scientist, Prof. R. Blondlot, head of the physics department at the University of Nancy and a respected member of the French Academy, proudly named the new radiation "N-Rays" after his own university.

In his first paper published by the French Academy, Blondlot revealed that N-Rays were emitted by a variety of metal objects and that they enhanced human vision. If the gas lights of that era were turned down to the point where one could not quite read a clock or calendar on the wall, and a metal object were then held up to emit N-Rays, the enhanced human vision now made it possible to read the clock or calendar. Other French scientists hurried to repeat Blondlot's experiments and before the year was

over the French Academy had published a dozen papers confirming the existence of N-Rays.

By the following summer, the French Academy had published nearly a hundred papers on N-Rays, including twenty by Blondlot himself and ten by Jean Becquerel, the son of the discoverer of radioactivity. Becquerel reported that N-Rays could travel through a wire, like electricity. French physicists were joined by chemists, biologists, physiologists, and psychologists eager to participate in the new discoveries.

One published paper reported an especially mysterious property of N-Rays. If a metal being used to emit the rays were anesthetized with ether or chloroform, the metal stopped radiating N-Rays. One French scientist, A. Charpentier, who had earlier achieved fame for his experiments with hypnosis, reported experiments that revealed that N-Rays were even emitted by human muscles, nerves, and the brain and that the radiation enhanced the senses of hearing and smell as well as sight. Soon other experimenters reported the discovery that N-Rays also were emitted by growing plants and even by a human corpse! There seemed to be only one material that did *not* emit N-Rays—*wood. On that all experimenters agreed!*

Blondlot published a paper which confirmed beyond all doubt that N-Rays existed. He had built a spectroscope, using aluminum lenses and prism, and reported that it produced a spectrum of lines separated by dark intervals. This not only confirmed the existence of N-Rays but showed that they came in a variety of wavelengths. The French Academy announced that it would award Blondlot its LaLande prize of 20,000 francs and a gold medal for "the discovery of N-Rays."

While French scientists were reveling in their exciting discoveries, their counterparts in other European countries were deeply troubled because they were unable to duplicate the results of the French experiments. This was especially embarrassing for a Berlin professor, a Dr. Rubens, who was commanded by Kaiser Wilhelm to come to Potsdam and demonstrate the remarkable new N-Rays. Rubens spent two weeks trying to duplicate Blondlot's experiments without success.

In the fall of 1904 at the meeting of the British Association for the Advancement of Science, Rubens discussed his misgivings about the existence of N-Rays with Dr. Robert W. Wood, who also had been unable to duplicate Blondlot's reported results. It was decided that Wood would visit Blondlot at his laboratory in Nancy to let the discoverer of N-Rays demonstrate their existence and mysterious properties.

Blondlot did not speak English and so Wood suggested they use German, prompting Blondlot and his laboratory assistant to believe they could converse privately in their native tongue. However, Wood was moderately conversant in French. Wood later described the highlights of his visit in the following words, as quoted in the Seabrooke book (Chapter 17, pp. 233 f.):

> He [Blondlot] first showed me a card on which some circles had been painted in luminous paint. He turned down the gas light and called my attention to their increased luminosity when the N-Ray was turned on. I said I saw no change. He said that was because my eyes were not sensitive enough, so that proved nothing. I asked him if I could move an opaque lead screen [i.e. a shield] in and out of the path of the rays while he called out fluctuations of the screen. He was almost 100 percent wrong and called out fluctuations when I made no movement at all, and that proved a lot, but I held my tongue.
>
> He then showed me the dimly lighted clock, and tried to convince me that he could see the hands when he held a large flat [metal] file just above his eyes. I asked if I could hold the file, for I had noticed a flat wooden ruler on his desk, and remembered that wood was one of the few substances that *never* emitted N-Rays. He agreed to this, and I felt around in the dark for the ruler and held it in front of his face. Oh yes, he could see the hand [of the clock] perfectly. This also proved something.
>
> But the crucial and most exciting test was now to come. Accompanied by the assistant who by this time was casting rather hostile glances at me, we went into the room where the spectroscope with the aluminum lenses and prism was installed. In place of an eyepiece, this instrument had a vertical thread painted with luminous paint, which could be moved along in the region where the N-Ray spectrum was supposed to be, by turning a wheel having graduations and numerals on its rim. This wheel turned a horizontal screw with a movable nut on which the thread was mounted.
>
> Blondlot took a seat in front of the instrument and slowly turned the wheel. The thread was supposed to brighten as it crossed the invisible lines of the N-Ray spectrum. He read off the numbers on the graduated scale for a number of lines, by the light of a small, dark-room red lantern. This experiment had convinced a number of skeptical visitors, as he could repeat his measurements in their presence, always getting the same numbers. He claimed that a movement of the thread of 0.1 mm. was sufficient to change the luminosity, and when I said that seemed impossible as the slit of the spectroscope was 2 mm. wide, he said *that was one of the inexplicable properties of N-Rays.* [Emphasis added.]
>
> I asked him to repeat his measurements, and reached over in the dark and lifted the aluminum prism from the spectroscope. [NOTE: this would make the spectroscope inoperative.] He turned the wheel again, *reading off*

the same numbers as before. [Emphasis added.] I put the prism back before the lights were turned up, and Blondlot told his assistant that his eyes were tired.

The assistant had evidently become suspicious, and asked Blondlot to let him repeat the reading for me. Before he turned down the light I had noticed that he placed the prism very exactly on its little round support, with two of its corners exactly on the rim of the metal disk. As soon as the light was lowered, I moved over toward the prism, with audible footsteps, *but I did not touch the prism.* The assistant commenced to turn the wheel, and suddenly said hurriedly to Blondlot in French, "I see nothing; there is no spectrum. I think the American has made some derangement." Whereupon he immediately turned up the gas [light] and went over and examined the prism carefully. He glared at me, but I gave no indication of my reactions. This ended the seance, and I caught the night train for Paris.

The following day Wood wrote a letter to Britain's *Nature* magazine, reporting a full account of his experience but without identifying Blondlot by name. Wood simply indicated that the experiments he had witnessed had been performed in a French laboratory "in which most of the N-Ray experiments had been carried on." Wood's account was published in the September 29, 1904, issue of *Nature.*

A translation of Wood's letter was published by *La Revue Scientifique,* a French semipopular scientific magazine which requested comments on the existence, or nonexistence, of N-Rays. Most of the responses were in support of Wood's findings. The French Academy subsequently published only two more papers on N-Ray experiments. When the Academy met in December, it went through with the presentation of the LaLande prize to Blondlot, but announced that it was being made for Blondlot's "life work, taken as a whole." There was no mention of N-Rays. Blondlot later suffered a nervous breakdown from which he never recovered.

N-Rays and UFOs share at least one common, mysterious characteristic: both defy analysis and investigation by traditional scientific methodology. When Dr. Wood expressed surprise to Blondlot that he could report detecting an effect that was physically beyond the capability of his spectroscope, the French scientist responded that this was "one of the inexplicable and astounding properties of the rays," according to Wood's letter to *Nature* magazine.

A similar view recently was expressed by Dr. J. Allen Hynek, currently the spiritual leader of the UFO Movement, in the book "The Edge Of Reality," co-authored by Dr. Jacques Vallee.

Hynek observed: "Now one can say that if UFOs were a perfectly natural phenomenon . . . it certainly could be studied scientifically. Then science has a certain approach: gathering data, analyzing it, according to well-known principles, formulating some hypothesis about it. If, however, you are dealing with a phenomenon that is intelligently controlled . . . then the ordinary methods, the kitchen-tested methods of science don't quite apply, because you have a game-theory aspect coming into it."

Although the methodology of science has advanced mankind from the dark caves of prehistoric superstition to the point where it can explore distant planets of our solar system, that scientific methodology is not adequate to cope with UFOs, or N-Rays. •

What *They* Aren't Telling You: Suppressed Secrets of the Psychic World, Astrological Universe, and Jeane Dixon

Dennis Rawlins

When it comes to superstition exploitation, I'm an absolutely unabashed hard-liner. You are about to learn why.

Sure, the addicted *victims* are sweet and well-intentioned—lending an air of flower-child innocence to the occult racket. All of which has less-than-zero relation to the cynical, hard-bitten, big-name pushers and publishers of the big-money, occult-biz dope that is the whole operation's life-blood.

Overharsh? Not according to the Serious astrologers, who themselves call the daily newspaper horoscopes "frauds," "garbage," "patent medicine," and "utter nonsense" (N.Y. Astrology Center's *Aquarian Agent*), a "travesty" (Margaret Hone's classic *Modern Textbook of Astrology*), "drivel" (Noel Tyl), and "opium" (John Manolesco's *Scientific Astrology*). Like artists—equally unbridled by testable standards—pseudoscientists' sharpness when skewering each other cannot be exceeded by mere outlanders. But one may aspire.

The ongoing play-it-again-sham we will be dissecting and exposing in the pages that follow involves far more than simple deceit: by its nature, it systematically exploits and so can ultimately drive out the honest-man-who-expects-others-to-be-honest (the human foundation of decent civilization) seeing him in but one light, an easy mark, ripe for the ripping —a pattern that has materially contributed to the current crisis-proportion expulsion of public trust from virtually all but the incurably naive and dependent, that pathetically vulnerable clan off whom the commercial promoters leech a living. Maybe I could show the latter some genteel respect if they switched to relatively useful, courageous, and challenging pursuits—like rolling drunks or stealing candy from babies.

And let's dispense right off with some of the customary, well-pro-

moted confusions about having strong postjudices and being antilibertarian—two quite distinct matters. I could name (and have) an occasional prominent fascist mentality in orthodox science; but most scientists are curious, open folk. Naturally many just don't have the time or inclination to indulge quackpots—and find it particularly aggravating to be called biased or over-committed (often by people who've invested whole *careers* in occultism) simply for showing less than breathless excitement at each week's latest Discovery-of-the-Century, ballyhooed by the same old cults who've been irresponsible for countless previous false alarms, to zero net result. And as for me, I'm hardly a knee-jerk establishmentAryan, being best known for a 1973 book exposing deliberate fraud by the world's largest scientific society. Furthermore, I have nowhere suggested *banning* superstition (indeed, I'm even for legalizing *real* opium), nor has any scholar I know.

In fact, bringing in the law to control astrology seems rather to be the believers' (intramurally controversial) plan, as soon as they're powerful enough to swing it; one version of the official aims and objectives of the pre-eminent American Federation of Astrologers (AFA) urges "the enactment of legislation [establishing standards thus] protecting both the public and the ethical astrologer and bringing *legal recognition* to astrology as a science." (Emphasis added.) The First Amendment? Well, let's hope the Supreme Court has a sense of humor.

Astrologers believe that the natal "horoscope," the orientation of the planets, signs, and houses at the *instant* of the first breath of the newborn child, is critically linked to its future. (This notion is possibly a relic of an old presumption of royalty that the planet-gods' seating arrangement for the birth-event is a significant riddle, worthy of professional decoding.) Nowadays, as many stopwatches as planets surround births among Serious astrologers—those largely innocent dears who unfortunately tend to live in an obscurity and poverty rather incongruous with the vast power implicitly claimed for their mystic art. As any professional will tell you (especially come alibi time), an error of only *ten minutes* in the recorded moment of birth is more than sufficient to destroy the validity of the interpretation of a horoscope. Does it therefore tell us something about the state of astrology today that the most famous astrologer on earth, Jeane Dixon, lies about her birthtime by over ten *years*?

The term *ESP* was coined decades ago by Joseph B. Rhine, founder of the world-renowned "Duke Lab" (the Institute for Parapsychology in

Durham, N.C.), which has been the main respectable-scientific fount for those who hope there's Something More in the universe, especially beyond the grave. It has also been a pretty large sink for their last bequests. (The endowment has now grown to roughly two million dollars.) ESP refers to such alleged parapsychological phenomena as mind reading, clairvoyance, purely mental control of matter (psychokinesis, or PK), future prediction (precognition).

And just how well do the ESP leaders read even close colleagues' minds and sense their own futures? In a long and generally valuable article in the March 1974 issue of his *Journal of Parapsychology* (affiliated with the Parapsychological Association, of which more below) Dr. Rhine warned "inexperienced" researchers against deception by the professional tester himself. He argued that suspicions of this among scientists at large was now a "last-ditch" excuse for their disbelief and a major factor in explaining "how comparatively slow the recognition of parapsychology has been," which naturally was upsetting to one who has dedicated his life to the work and wishes researchers to avoid "the wasteful frustrations of the past." Of course, at his own Durham, North Carolina, based institutes, the Foundation for Research on the Nature of Man and the Institute for Parapsychology, the deception problem had been well in hand for "the last twenty years," because of judicious selectivity of personnel (with swift apprehension of "culprits . . . before serious damage has been done") plus other wisdom and experimental cautions imparted in the article. That same issue of the journal was dominated—lengthy article, review, citations —by Rhine's heir-apparent, Walter Levy, already, after five years at Durham, Rhine's hand-picked Director of the Institute for Parapsychology. Yet even before the next issue appeared, "respected colleague and trusted friend" Levy was caught stealing Rhine's candy: observed by his own assistants fixing data. Thus did the ESP scandal of the century explode in the surprised faces of the world's foremost experts on precognition. (And you can't say Levy wasn't trying to clue them; his last two *Journal of Parapsychology* reviews were entitled: "A Less than Reliable Source" and "Overreaching.")

Yet, at their different levels, Jeane Dixon and "Duke" are widely respected here and abroad, personifying the trust of most believers in astrology and ESP.

Widespread popular credulity *in a democracy* is as dangerous as living in a building with a foundation of silly putty. Very roughly one-fourth of the public believes in astrology (the stars care), and the figure is

at least as high for ESP (somebody out there could be reading my mind). And an overwhelming majority of Americans express belief in some form of theistic religion. (One is continually encountering priests who express dismay and perplexity at their flock's attraction for the other, competing superstitions—evidently oblivious to who it was that deliberately trained those now-frisky sheep to accept a priori reasoning, faith instead of evidence, and an anthro- and ego-centric, teleological view of the material universe. Give a fellow the tools for destroying his common sense, and occasionally he'll finish the job.)

Which is to say that most of our neighbors imagine that the universe around them is *about* them: a vast invisible conspiracy, full of intents, tests, and riddles—designed with themselves in mind. Religion is the optimist's paranoia.

Every four years this same public dutifully, ritualistically elects the most powerful leader on earth. We may choose to ignore superstition, but its social and political costs will not ignore us. The very same ivory-tower-cowering folk who've hitherto scorned public nonsense as beneath reply now wonder why the young seem turned off by serious learning, why cheating in schools is epidemic, why grant money has dried up, and so on.

Of course many scholars shy away from crank science simply as a matter of intellectual taste, unaware that the study of human folly is excellent training for avoiding the pitfalls causing it. And it's not knocking front-line academic creativity to face the wisdom of a rule with practical and abstract (Darwinist) overtones: the cautious filtering of old, previously known truths from society's eternal cornucopia of fashionable errors is more crucial to the daily, stable maintenance of a rationally conducted life than is the (precious rare mutant) discovery of new truth.

The theory that humans are largely hardcase irrational is widely accepted in certain quarters, for example, psychoanalysis, criminal law, advertising, and politics, many of whose leaders themselves constitute excellent examples of the theory. While being properly grateful for small nonhypocrisies, one is nonetheless disturbed at an insidious, pervasive trend that is becoming a self-fulfilling prophecy, convincing myriads of already muddled minds that life is beyond comprehensible control.

If this post-Freudian-revolution viewpoint is correct, then reasoning with a person is as futile as reasoning with a volcano—and thus the attempt to reason victims out of superstition is *itself* a superstitious act: that is, one is performing actions toward a goal when those actions have in

fact no relation to the goal's attainment.

We must also face a chicken-versus-egg question: Is superstition a symptom or a cause of its associated ills? The fact is, circular, ongoing, educational systems—schools, family, media, cults—make it *both.*

How to crack these feedback cycles? Well, perhaps we can't; but if there's a chance it lies in understanding the phenomenon and its rationalizations and helping others do so. And one who kicks astrology is ready to shake bigger monkeys; the struggle is along the same lines.

And to accomplish anything we're going to have to break some eggs.

Perhaps the most effective—and poetically just—plan for penetrating the occult head is simply to tailor one's approach to fit the object: take full advantage of the paranoia guaranteed to be found within, siccing that indigenous sickness onto something legitimate for a change. The believers are *right* about a plot—it's just that they're all fussed up about the *wrong* conspiracy. The Grand Design is not way out there in the stars; it's right on Mad Ave, where best-seller-crazed book publishers adhere religiously to their own Protocols of Buyin', an effective blueprint for an exponential growth of national madness. (Protocol 1, which their salesmen privately call "The Flying Saucer Principle": the pro-saucer books sell big; the skeptical ones only modestly—so who needs 'em?) All in order to peddle, with the coldest efficiency, books which they themselves deem to be occult-exploitation (oxplo) trash, aimed at a specific impotent-bovine segment of the public that they cultivate with the tender loving care of a green-palmed forester whose trees bear crisp ten-dollar bills.

Understand NY trade's priority (singular) and woes (plural): in the current fiscal depression, books costing more are being dangled before a buying public with less fun-money—so how else sell hardbacks at ten to fifteen dollars a shot (with paperbacks going at two dollars) except to *fanatics?* (and you thought the country was going crazy by accident)—to various carefully primed specialty markets of addicts who are helpless to control their purses when encountering "their own thing," which—despite availability-cum-promo at every turn—they still feel is Forbidden or Top Secret: violence, porn, conspiracies, astrology, ESP, saucers, Bermuda Triangles, pyramids, et cetera, into remotest NBC-TV Land.

The avid readers of these books seem blissfully innocent of some elementary facts of tradebook editorial life: truth is *not* stranger than fiction, but belief in an improbable fantasy's literal truth makes it far more compelling. So, far-out wish-fulfillment *fiction successfully masquer-*

ading as truth is a more salable package than either truth or fiction. And few stop to think: it is *not* against the law to lie or print lies. To the contrary, in practice the law positively protects the liar from exposure, by libel provisions that deter most publishers from printing the truth about him since few will court legal hassles. So it's lie and let lie.

It is noteworthy that many of the currently oxploding class of zany specialty books are inherently so dull or ludicrous or both that what drives a reader to sitting through them is largely the *anticipation* factor (quite lacking in skeptics; thus their oft-jeered scant acquaintance with the literature): each page brings the occultnik closer to the Hidden Mystery, or the Key-to-the-Universe, or, grander yet, the Key-to-Me. The narcissism of those hooked on astrology, in particular, is almost as intense as that of those under the spell of shrinkoanalysis and is but one expression of a practical alienation from outside reality common to the breed.

We have now delineated the reasons why ninety-nine percent of printers ink expended on the occult is pro, a situation that effectively *suppresses* facts and debate crucial to an informed opinion. (And the very book companies whose single-mindedness leaves you uninformed then have the brass to publish books castigating skeptics for having uninformed prejudices!) We next turn to the withheld information itself.

1. To be blunt, astrology and ESP can't cut it. After decades of intensive parapsychological research at the "Duke Lab" and elsewhere, after as many years of the American Federation of Astrologers' "scientific research" and the AFA *Bulletin*'s "Data Exchange" and "special Research Bulletins" and the establishment of a "central depository" for such data, and after centuries of less-organized investigation in both fields: there is still not *one* repeatable experiment establishing even so much as the bare *reality* of ESP or astrological influences, let alone fine details. (One isn't demanding perfect success rates—clearly above-chance scores would suffice.) The head of the AFA, asked in 1976 to produce such an experiment, replied: "We're working on it." So nothing has changed in 40—nay, 2000—years.

Independent researchers who are not making their living at parapsychology regularly fail to replicate the experimental results reported by those who do live off it. Recently reviewing a career so largely wasted, Rhine reveals his favorite excuse-litany for this admittedly "frustrating" situation: There are "so many wrong ways to do" the experiments. Well, he can always come before our Committee and do them right himself —we're willing to be shown. (Years ago, I suggested to a "Duke" para-

psychologist that a nationally trusted scientific arbiter be similarly approached. The reply: it wouldn't be worthwhile!) Of course we will insist on controls to prevent cues or cheating. Unfortunately, one suspects, from the writings of Rhine and others, that such "negative" precautions in themselves constitute the Wrongest way to seek impressive scores.

2. A major fraction of *college* students do not realize that astrology is not the same as astronomy. One can imagine, therefore, how well the average person is informed regarding this elementary fact, or the revealing point (given rare, long-overdue publicity by U.S. Scientists' 1975 "Objections to Astrology" statement) that the percentage of professional astronomers who believe in astrology is very nearly (perhaps exactly) zero. Similarly, the vast majority of professional psychologists are skeptical of ESP, for exactly the reason just noted—experimental unreplicability. It is also not generally known that the famous "Duke Lab" has long had no official connection with Duke University, just as the Stanford Research Institute now has none with Stanford University and did not when it launched Uri Geller into showbiz orbit. One need only chat off-the-record with faculty at either university to learn how seriously the local parapsychological research is taken.[1]

3. The stock explanations for this situation naturally take an everybody's-out-of-step-but-us approach. For example, orthodox scientists must simply be *closed* to unfamiliar or new ideas. (As if astrology and ESP were something fresh! And it's amusing to see those who believe, e.g., "Leos are bossy" charge skeptics with, of all things: Prejudice.)

The old *Reader's Digest* "Why-a-Scientist-Believes-in-God" sort of article used to argue that anyone who believes in something as bizarre and insubstantial as an electron can easily accept the Deity. But the argument is easily inverted: scientists' ready acceptance of such wild ideas as electrons, relativity, quanta, and pulsars dramatically demonstrates how *open-minded* the overwhelming majority of scientists are to *anything —when the evidence is independently verifiable.*[2]

4. And, while we're on the subject of open-mindedness and the

1. Not that a simple nose-count of experts ever proves truth or falsity. However, these facts should interest that large segment of the public which continues under the gross misimpression that scientifically and mathematically skilled respectable specialists are behind the construction, practice, and promotion of astrology and other occult sciences.

2. The seeming Closed-mindedness of this paper is simply a probabilistic measure of my strong doubt that tide-turning occultist evidence (to which I remain as open as any scientist) *will in fact* ever appear. Thus the apparent paradox of the open-closed-minded scientist.

ability to absorb new data, how do the occultists themselves measure up? Despite flirtations with passing fashions, the heavy believers are little different from their orthodox-religion brethren: tossed on a sea of vying fads without the anchor of testable standards, only the rock of agreed-upon Ancient Wisdom provides dependable security—just as a revered body of past holy miracles (for example, those 25-right-out-of-25 Zener card runs at "Duke") serves as "proof" in lieu of anything demonstrable here and now.

Just how stale Ancient Wisdom can get is readily seen from the current standard texts of astrology. These classify planetary "aspects" (the angles between pairs of planets, et cetera, *key* Serious horoscope data) by a rule thousands of years old: sextile (60°) and trine (120°), Good; square (90°) and opposition (180°), Bad. And modern Love-and-the-Stars compatibility advice for couples generally sticks pretty closely to a scheme of matching men and women for marriage by whether their sun signs have a good or bad aspect according to the above rule.

One may trace this rule back to the *Tetrabiblos,* the bible of astrology (written c. 150 A.D. by Claudius Ptolemy, who for forty years worked in the Serapic temple at Canopus, Egypt, a famous miracle-cure factory). The *Tetrabiblos* also provides its little-remembered original justification: the zodiacal signs were (as now) said to alternate in sexual nature (*Tetrabiblos* 1:12): Aries, male (men first, declares shamelessly sexist Ptolemy); Taurus, female (!); Gemini, male, and so forth. From this Ptolemy reasons that sextile and trine are good or harmonious because signs in such aspect are of the *same* sex, while those in square or opposition are of opposite sex. (*Ibid.*, 1:13) Today, almost 2000 years later, astrologers peddle the same old rule so unthinkingly they don't note that (a) contra Ptolemy, opposite signs have like sex, which makes opposition Good—and kisses off eighteen centuries of astrological practice, and (b) modern heterosexuals are being paired by the ancient Hellenistic world's gay aspect-rule.

The true measure of open-mindedness is responsiveness to incoming evidence. When faced with a dreary, multi-lifelong succession of frustrating failures at pinning down *any* dependable laws-of-nature in the occult realm, do the parapsychologists or astrologers finally conclude that, well, maybe there's nothing to it after all?—never, Never, NEVER!

It's an essential feature of the occultist mind-set: if a tea-leaf reading goes awry, the Believer still sticks by the method; it never occurs to him to do otherwise. The truth was *some*where in those tea leaves: so it is the *interpretation* of them that gets the blame for miscues. Note that experi-

ential evidence is *not* being taken to test a pet theory's rightness or wrongness (against a generically different theory, in order to drop one and retain the other). Instead, a favorite theory *pre*sumed to be generally right is merely being *adjusted* by experience. This alibi-lullaby approach constitutes a (literally) fool-proof game plan for stagnating intellectually and so not learning from experience. Needless to add, most of us adhere to it religiously most of the time. The rationalist's trick is simply not letting most-of-the-time become all the time.

Recall Rhine's lament about those countless ways to go wrong. Astrologers echo that in their assertion that astrology is too subtle and sensitive an "art" for lesser folk to master. (So, likewise, our Committee seeks to test or see tested not only the art but the most eminent artists.[3])

If religion has the holy men, occultism sure has the loopholy men. The Tea Leaf Principle is a venerable fixture in astrology: the failure of an astrological rule's application is never astrology's fault; some detail must need looking after, for example, omission of the effect of an unnoticed Aspect. The end-product of a succession of such ad hoc patch-ups naturally has almost as many Adjustments as the astrologer has clients! There is nothing new under the zodiac: from Ptolemy's ancient *Tetrabiblos* we quickly discern his problems in applying astrological theory, plus incidentally, a thinly veiled, detailed exposé of the entire degenerate upper-class of infamous Canopus, the Hollywood of the Roman Empire:

> . . . if Venus happens to be with Saturn, she produces merely pleasant and firm unions, but if Mercury is present, they are also beneficial. But if Mars also is present the marriage will be unstable . . . full of jealousy. . . . But if Venus and Saturn are also in Capricorn and Libra, they portend marriages of kin. If the Moon is present with this aforesaid combination when it is at the [ascendant] or at mid-heaven, she makes men wed their mothers, or with their mother's sisters, or their stepmothers, and women wed their sons. . . . The Sun, particularly if the planets are setting, makes men wed their daughters. . . . But if the aforesaid aspects chance not to be composed of signs of the same gender, but are in feminine places . . . they produce depraved individuals . . . active and passive . . . and in some formations utterly obscene, as for instance in the forward and hinder parts of Aries, the Hyades, and the Pitcher, and the hind parts of Leo, and the face of Capri-

3. It is perfectly true that many of us are skeptics, but unorthodox scientific claimants with *confidence* in their beliefs would not be disturbed by that. They would welcome the challenge of doubters as an opportunity, not a threat. And they would certainly not immediately cry "Inquisition" (as certain hysterical journals have)—thereby making a public spectacle of their insecurities.

> corn. But if the configuration is angular, on the first two angles, the eastern and midheaven, they make a complete display of their abnormalities and bring them forward even in public places. . . . [One hopes that astrologer-clientele self-control has come along a bit since Ptolemy's era!]

As straightforward and catchless as tax law, right? And for the same cause: astrologers and congressmen operate on the same pragmatic, nothing-for-nothing principle—one loophole to a customer.

My personal favorite lullabier is Jeane Dixon. In 1956 she predicted that a blue-eyed Democratic President elected in 1960 would die in office (true); but then in 1960 her New Year's predictions stated that Kennedy would *not* win. And by August she was pushing for her idea of a terrific president, ambiguously predicting "that justice will prevail under divine guidance for Nixon." (In the 1965 edition of *The Gift of Prophecy* she stated that Nixon has " 'excellent vibrations' for the good of America and will serve [his] country well.") Contradiction? Not at all. Jeane maintains, "My crystal ball clearly shows that Nixon won but that the prize was stolen from him by certain dishonest vote counters." Terrible thing, dishonesty.

If only crystal balls supplied these little footnotes *in advance.* But as with the Delphic Oracle, Revelations, or Nostradamus, you only know what was being revealed or predicted after it occurs! In a word, these "prophecies" are *useless* (other than for parting book buyers from their sense and their dollars). If Jeane Dixon really fore-"saw" the JFK assassination, why did she not telephone the FBI specifying the rifleman's precise perch or go to Dallas herself and intervene?

Nor do astrologers make money directly off the race track or the stock market, as they surely would do if they really could see the future. We know they don't because if they did they would shortly be so rich that the need to charge their clients would be obviated. Instead, their funds are drawn from the easy pockets of those who don't think about these Paradoxes.[4]

5. If all these excuses we've just slogged through aren't exactly your idea of what constitutes prediction, you're beginning to see through an old game. In large-scale public practice, astrology and parapsychology are little more than classic instances of what the consumer-fraud experts know as Bait and Switch.

4. The Stanford Research Institute chapter of the Church of Scientology claims to be able to win at Las Vegas by precognition—why then does it have the need (or nerve) to keep asking the U.S. Government for vast sums of money to promote its psychic research?

The Bait is obvious, though the truth of it is seldom faced by the victim: if you could read character or the future by the "magic" of the horoscope or just by turning on one's ESP, then the acquisition of life's desiderata would be plain *easier.* The new popularity of the occult's instant intellectuality is perhaps to be expected, in an age of educational do-your-own-thing permissiveness—understanding hard, communicable (nonrevelatory) knowledge simply requires more tough work than many persons are inclined to suffer.

An equally unfaced ironic corollary: despite all the high-flown hype about the ethereal spiritualism of astrology and ESP, most addicts' primary goals for learning about them are (ask any publisher!) the old mundane standbys—sex and money.

So much for the Bait, which sounds great up front by itself. But what are you Switched to? After all the alluring dreams of the magic carpet shortcut to success and happiness, you wind up lost in an inscrutable fog-bound maze in which the walls are mirrors of double-talk, the street signs are riddles, and your astrologer is a typical backseat driver (you know, always spouting driver-safety generalities or telling you to watch out for something you've already seen right smack in front of you, but when you toss him a map and ask for elementary navigation—worthless). Imagine being so unsure of your ability to face or control your life's course that you will *pay* a backseat driver; worse, imagine taking the cash.

6. The worlds of astrology and ESP are crawling with charlatans. The leading institutions, discomfitted by this situation, attempt to point the finger at the small-time or show biz entrepreneur—but that just won't wash the stain. The patron saints of the entire Spiritualist movement, the Fox sisters (mid-nineteenth century), were simply charming tricksters, later self-exposed, whose lives of conning, blackmail, and alcoholism ended in the gutter. Of the major 1882 founders of the pre-eminent (London) Society for Psychical Research, one evidently committed suicide after being ruined by trusted fakers; another, F. Myers, was himself notorious at Cambridge for plagiarism.[5] Things haven't changed much: S. G. Soal, the top British parapsychologist of our generation was reported years ago to have doctored psi-test scorecards—a charge now backed up by C. E. M. Hansel's fine statistical detective work. In the aftershock, Soal's forthright old colleague Kate Goldney sadly told me in 1975 that

5. And, regarding the most recently ascendant astrology star, Hans Eysenck, see *American Journal of Psychology* 68:704; also *Psychological Bulletin* v. 53, passim, and R. Bastedo, "Psychological Determinants . . .", Chap. 8.

research was virtually dead in Britain and that all the major work was being done in the United States, which has been busy producing the likes of Levy and Geller!

In astrology, too, we find fraud near and far. Analyses by Delambre, Robert Newton, and myself have uncovered fabricated "observations" and plagiarism even in the purely astronomical section (the Almagest) of Ptolemy's *Astrological Encyclopedia*.[6] Today we have Jeane Dixon, alias Lydia Pinckert, the best-known astrologer-psychic in history, altering her biography as she pleases (see Dan Green's revelations in the *National Observer*, 27 October 1973) and pretending to be an astrologer when she can't even compute a horoscope! The most precise long-range world-event prediction she ever claimed was the date of the partition of India—to the day, over a year in advance. So why did the name of the witness to this miracle disappear between the hardcover edition of *Gift of Prophecy* and the paperback? Perhaps she had originally thought of him dead, like so many of her "witnesses." But after locating him in Jakarta, Indonesia, I learned the answer: he was suing her. *Gift of Prophecy* authoress Ruth Montgomery has had it: "I no longer accept her word."

When occultists' noses are rubbed in the fact that fakery in their field is hardly restricted to occasional fly-by-nights, as at first protested, the next apology is: So what? Other disciplines have their frauds, too, but nobody rejects those disciplines in toto on that basis. True, but the fudgings and selectivity here and there in the data of Isaac Newton or Mendel don't lead us to doubt their great discoveries because *anyone can repeat their crucial experiments.* The distinction can't be too strongly emphasized: in the absence of repeatable experiments, the *entire* basis of one's belief in ESP or astrology is *nothing* but the tester's *word.* History or law this may be; but it is not science. Anyone publishing unreplicable data in any field (and it happens in straight science) is asking for trouble. If he does so consistently, he himself has placed his word in the spotlight.

Even skeptics are often insufficiently aware of the *necessarily* crucial role of fraud. Assuming for the sake of argument that ESP is nonexistent, ask: How could an entirely baseless idea get anywhere *without* repeated, systematic trickery? A naive, honest practitioner of astrology will make definite predictions, and if there's nothing to the whole art, will be

6. *Quarterly Journal of the Royal Astronomical Society* 1973-1974. And Ptolemy's theft of Hipparchus of Rhodes' entire thousand-star catalog is revealed by the absence of tell-tale half-degree systematic effects in the data, plus perfect accord with the horizon of Rhodes (5° north of Canopus). See also R. Newton, *The Crime of Claudius Ptolemy*, Chap. 9.

repeatedly embarrassed and end up a failed astrologer. But if he is vague, quick with an alibi, and just plain cheats when he can—his chance for survival will be systematically enhanced. Thus, in a chimerical pseudo-science, natural selection produces a correlation—quite absent in real sciences—between eminence and intellectual dishonesty. (The same link is evident in politics—and in sales, where advertising hokum is vital in inverse relation to quality; a good product sells itself.)

Rhine's ESP research has one advantage here over astrology: when examining human subjects instead of stars, you need only be naive or careless and *they* will do the cheating. Director Levy's downfall was due to his attempts to show ESP in rats, who haven't the smarts or motivation to fix scores; so he had to do all the work himself, and got caught in the act.

7. The most respected and famous figures in the occult world are far zanier than is popularly realized. After our glance at ESP research on rodents, perhaps little more need be added. One wonders: Did animal parapsychology have its origins in jest? Did a real psychologist once tell Rhine contemptuously that, given the quality of his laboratory's research, even *mice*-testing would doubtless result in impressive extrachance scores? Only perhaps Rhine doesn't always know when his leg is being pulled. What next? Pet-rock ESP? Don't laugh (Cry?). The 1976 January *American Society for Psychical Research Newsletter* offers the nonpareil straight-man line: "There is no empirical evidence that ESP operates to a ***greater*** extent in brainless organisms" (emphasis added).

But the parapsychology Biggies attain their fullest wildflower when confronted with fraud by one of their own. As we've already seen, a galaxy of stellar fakers all over the field doesn't deter belief in the general theory; but the dementia doesn't stop there. Incredibly, most top believers, once committed, will stick by a particular "psychic" even when that specific person is caught cheating. In the nineteenth century Oliver Lodge of SPR defended the notorious Eusapia Palladino, after she was nabbed red-handed, by loopholing that she must have been low on her real powers that day and so, under pressure to perform, resorted to deceit this once! When Bishop Pike's "medium," Arthur Ford, died in 1971, his files were found to contain surreptitious detective work on his clients; yet the arranger of the famous 1967 Pike-Ford television seance offers that "Ford was a genuinely gifted psychic who . . . fell back on trickery when he felt he had to." (This opinion is echoed in the *Journal of the American Society for Psychical Research* for October 1975 by an ASPR trustee). And it gets worse. When, in 1972, I entrapped and exposed Russ Burgess's college-

audience "psychic" act's capstone feat as just a magic trick, a faculty member was quoted in the ensuing press coverage as having reacted: O.K., *that* was fake, but the rest of the *same evening's* performance looked real! (Burgess has sinced moved up the academic ladder to the Playboy Club circuit and on to co-stardom with Allen Hynek in the January 1977 New York Science Fiction and Occult Fair.)

What the paying public doesn't realize is that such arrant madness —far from being exceptional—is virtually *standard litany.* One of the two Stanford Research Institute testers of Geller and the otherwise-intelligent editor of *The Geller Papers* have each told me that he believes that Geller sometimes cheats but that that doesn't mean he isn't real the other times. Apparently not-getting-caught equals genuine.

There are further bizarre aspects to the hopelessly ESP-brained, one of the funniest being Rhine's "discovery" that tight controls against cheating will depress a formerly miraculous subject so that his power fades! It's not that one wants to lock up such dears for their own safety. All that is required is what the press has heretofore not done, namely, to allow the public to realize how pathetically silly the popularly trusted leading occult institutions are and how far-gone a big name parapsychologist has to get in order to persist for decades in search of the ESP will-o-the-wisp.

Such mental requirements are related to a point the circularity of which some do not appreciate: Why are all the "experts" believers? Simple. Start with 1000 interested experimenters. After tests show nothing repeatable except flops, the 990 level-headed scientists naturally turn to other, more-promising lines of research. So it's hardly an argument (or, more often, implicit impression) supportive of ESP to ignore this context and aver that *all* ten of the major researchers are convinced it's real!

8. In occultdom, just as there exists a correlation between funny business and success, so is there one between incompetence and success.

The most capable calculators of horoscopes are people you've never heard of and never will because it's not the computers but the slingers who get famous. This is certainly not the case in genuine sciences, but it is *exactly* what one would expect if astrology is a chimera. Sociologist-of-the-occult Marcello Truzzi notes that a statistical test of professional astrologers has shown that those whose "astrological" advice adhered *most* closely to the rules of astrology (as against everyday, common-sense psychology) were the *least* likely to be of help to their clients.

I need not—indeed, *cannot*—cite here all the academic sins, elementary-astronomy howlers, and geographical fluffs one encounters

even in the most Respectable astrological publications, for example, those of the American Federation of Astrologers, Gauquelin, Dalton, and standard textbooks. A mere sampling will have to suffice.

The world's most widely used table of houses (Rosicrucian Fellowship, 1949) is not only a minefield of errors, but contains sixteen pages of inept plagiarism.

On the very *Aquarian Agent* page facing the New York Astrology Center's reply to those *ignorant* signers of "Objections to Astrology," the Center provides its hometown "natal" chart (New York City, 1 January 1898) done for a point in Long Island City! This from blindly following three decades (1945-1976) of AFA-inspired misgeography, which anyone capable of reading a gas-station road map could get right on his own. Another anti-"Objections" scoffer is Frances Sakoian, an AFA vice president, coauthor of the popular *Astrologer's Handbook* (Harper & Row, 1973), and head of the New England School of Astrology. Betrayed by dangerously little knowledge regarding geodetic versus geocentric latitudes, Sakoian has long been computing Boston horoscopes for a spot near Randolph, Massachusetts, twelve nautical miles south of Boston. If the astrologers' most Serious scholarly outfits can't even find themselves, how can they guide others? Well, the blind have to lead someone.

Calculating the actual angles between heavenly bodies requires spherical trigonometry. However, astrologers prefer to define their all-important "aspects" in such a way that they can be computed by simple addition and subtraction. (You will shortly be able to guess why.) Of course there is a 1974 AFA handbook *Spherical Astronomy for Astrologers,* American astrologers' most widely used reference for spherical trigonometry (translation: you could almost feed a sparrow on the royalties). This extraordinary document, which continues to be sold nationwide at occult bookstores ("Helpful," says the New York Astrology Center's current catalog, and I've never heard a murmur of discontent with it), is a standout, even in astrological literature, for the variety and imagination evidenced in its manglings of formulas and fumblings of ordinary high-school calculations. The book resulted from a workshop by the author (a Ph.D.) at the AFA's 1974 convention. If the book was not a hoax, it ought to have been. (And, henceforth, selling it will be.) Its coup-de-bloop is the computational location of a Pisces ascendant somewhat *north* of *west*. (An ascendant must be in the east. The sign Pisces rises and sets 100 percent south of the east-west line.)

All of this is less shocking if you know some astrologers firsthand.

The fact is that most of these masters of the heavens couldn't even find north from the stars if taken beneath those unfamiliar outdoor environs. Indeed, the great majority of them can't recognize in the sky even one of their intimate-friend planets or zodiacal signs, or indeed anything beyond the sun and moon. (Try one out sometime.) And they could not care less, since most practical astrology is strictly indoor numerology, handholding optional.

As for understanding the orbital motions of the planets, the overwhelming majority of astrologers' grasp of mathematics is limited to the simplest arithmetic. In their allegedly difficult craft, just addition and subtraction (not even higher mathematics, like multiplication and division)[7] is *all* that is needed for the only two mathematical operations professional astrology entails: erecting the traditional horoscope and balancing the equally traditional checkbook.

For planetary positions astrologers have for centuries privately depended entirely upon almanacs swiped from the published ephemerides of those Unmentionable astronomers. The new trick is quietly to order the entire calculation of the client's horoscope by mail from one of the many quick computer horoscope services—and then retail this three dollar item to the poor innocent at a markup of ordmag 1000 percent.

The sway of incompetence apparently does not even exempt real scientists when they plunge into astrology. The sensational book *The Jupiter Effect* (1974) by John Gribben (a former geophysics editor of *Nature*, the world's foremost scientific journal) and Stephen Plagemann (NASA) "proves" the likelihood of a Los Angeles earthquate in 1982, triggered by the planets' configuration then. (See Chapter 9. Junior high schoolers might wish to recheck this chapter's widely-advertised figure for the time between Neptune-Pluto conjunctions.) This will cause peak solar tides, thus a sunspot maximum, and so on into a far-fetched causal chain, ending in the quake. (See Allen Hynek's excellent review in *Annals of Science* 32, p. 601; also R. Wood, *Kronos* 1: 4:94, and *Science News* 111, p. 19.) How-like-astrology, the authors shamelessly advertise, failing to note that in fact their theory was anticipated in all its essentials by the neoastrologer

7. Uncomfortable with slide rules, calculators, or computers, most astrologers perform even something as elementary as interpolation by their centuries-old rote logarithm procedure (which converts multiplication and division into addition and subtraction)—and some aren't very good at it anyway. The horoscope of Jimmy Carter published in the January 16, 1977 *New York Times Magazine* was done by Svetlana Godillo (AFA), whom NYTM plugged at length as the most-sought-after astrologer in the Nation's Capital. The Carter horoscope required ten log calculations. Godillo's score: 1 right, 8 wrong, 1 omitted.

Gauquelin in Chapter 14 of his *Scientific Basis of Astrology* (1966; Chapters 10 and 11 of which contain pungent debunkings of pre-Gauquelin astrological practice).

But the depressing fact is that the authors simply do not know how to compute maximum equilibrium tides for the many-body case.[8] In fact, 1982 is an unusually quiet year—with the sun suffering the second lowest peak tides of any year from 1965 through 1986.

9. The reason astrologers and parapsychologists continue to get away with passing themselves off as experts is as simple as it is deplorable: much of the public is just one iota more incompetent than they. Indeed the prime prerequisite for qualifying as an exploitable astrology believer is an ignorance of astronomy so profound that it may properly be classified as scientific illiteracy.

For instance, how many are aware of the supertrivial feebleness of the planets' discernable forces on us? If the sun and moon and all the planets were overhead at their closest—the most powerful conjunction in history, for which astrologers have waited and searched for centuries—the entire additional gravitational weight-lightening could be cancelled (if one were standing) simply by sitting down on the floor, thereby increasing one's weight by two parts in 10 million from the greater proximity to the earth's center. (That is, a 25-inch drop will do it—the height of the maximum equilibrium earth tides.)

Informed of this, astrologers—especially the synchronicity faction—naturally (with a predictability far exceeding their art's) shrug it off as irrelevant, preferring to gravity (which we at least know is *real*) something more "personal"—for which there is, sadly, no testable evidence. The rhetoric of astrological apologia requires an adamant standing by one's myriad rules and invisible forces until they are *dis*proved. The implicit shift of the burden-of-proof is the antithesis of real science's sensible positivism, which requires proof of the claimant, not the critic.

Which brings us to the nub of the problem, beyond particular lapses of factual education. On two broad but crucial fronts popular innocence is almost miraculously unblemished: (a) statistics (for example, how to distinguish between coincidences and meaningful experiences) and (b) what constitutes science, especially in terms of what is required for a controlled, trustworthy, scientific experiment. And the general public is not the sole

8. In three dimensions the problem constitutes an intriguing application (perhaps unpublished) of Lagrange multipliers and matrix diagonalization. The tidal wave-height extrema are simply eigenvalues.

offender. One can find Ph.D.'s in many fields (literature, theology, fine arts) without any more familiarity than that of the man-in-the-street regarding these basic techniques for truth-testing and relating observation to coherent theory.

I well recall a beginning astrology student's revealing reflex reaction when questioned about the credibility of the "science" of astrology: she just pointed to her thick, incomprehensible-to-her astrology textbook and responded, "You don't think somebody just made *all this* up, do you?" Well, the fact is that the irresistibly, monotonically mushrooming complexity of every practicing astrologer's conception arises from exactly the same stubborn, never-say-flush-it patchworking we saw in the *Tetrabiblos;* one-loophole-to-a-customer will fill a crazy-quilt book on astrology as fast as it will a diary or a bank account. The more predictive failures, the more complicated the "science."

Even aside from the classic white-coats-and-bubbling-beakers image, nonscientists' ideas of science seems to fix on imposing tomes of mysterious, multisyllabic lingo and awesome blackboard-choking formulas. Of course actual sciences are the opposite: the simpler the better (Occam's Razor). Compare, for example, Aristarchus and Newton to Ptolemy or Velikovsky: concentration versus accretion. A scientist's language is designed for easy, efficient communication with his colleagues; much of it seems "above" the untrained for the same reason a monolingual American is stunned on first encountering an eight-year-old Parisian's rapid-fire French.

10. To demonstrate the public's grasp of probability theory one need only point to the popularity of various numbers rackets. Of course state lotteries should be legal (and even tax free, so the government may compete fairly with other Organized Crime), but with the ironclad proviso that the state's profits be directly spent in the schools specifically (and, one hopes, suicidally) on educating the public in statistics and on demonstrating by monitored test the sure losses that follow habitual gambling—losses that in fact may be (and are, in casinos' private business reports) precisely predicted in advance, to enhance the impression.

I will now demonstrate by exaggeration an old statistical ploy that is still common in various forms and to various degrees in reports of research results throughout the occult world.

A super-thorough psychokinesis experiment is performed: a coin is flipped 100 million times, each time being "willed" to fall on heads. It comes up heads 49.97 percent of the tosses and tails, 50.03 percent.

A dismal flop, right? Not when you can turn it into a tabloid headline: "Massive Psychokinesis Experiment Yields Billion-to-One Success!" Crazy? Sure. But statistically the claim is accurate. In 100 million flips the number of heads should be in the range of 50 percent ± 0.005 percent. A deviation of 0.03 percent (six times standard deviation) would happen by chance only once in ordmag a billion such experiments. But, you protest, the original aim was to get more heads than tails. So what? That's "psi-missing," a well-known parapsychological effect. (If you think this is a put-on, I won't say you're wrong—but look up *psi-missing* anyway in the glossary printed at the back of every issue of Rhine's *Journal of Parapsychology.*)

Now, though the foregoing is obviously hyperbolic, it does serve to illustrate how mitey effects can be blown into mighty "results" by the alchemy of statistics.

Incidentally, one cannot play the particular statistical game just described if the sample is small. Thus, ironically, the very thoroughness of parapsychologists' endless tests is itself something of an implicit admission of the highly tenuous, "noise-confused,"[9] "elusive" nature of the phenomenon. (The most elusive things are those that don't exist.) Of course it is quite true that the hypothetical experiment described above is extra-chance. What is *not* demonstrated is that extra-chance equals ESP. We might be dealing with an unbalanced coin, or an unbalanced experimenter. All one need do is bias the results by, say, omitting to write down a few "unwanted" trial-results, and no amount (or refinement) of subsequent statistical analysis could be sure of detecting this "influence," which would simply be confounded with the effect of the Forces under examination. Only direct apprehension in the act of bias can be sure of nailing such practices. Thus ***unrepeatable statistical research,*** being easy to forge or accidentally bias, is ***worthless.***

And do not suppose with the early Agnew defenders, that people will not cheat by small amounts. Levy's fudging of figures was merely to convert 50 percent into 54 percent—unspectacular but tantalizing, canny grantsmanship, and a change that was not so great that subsequent failure to replicate the results would arouse suspicion.

Of well-known modern astrologers, Michel Gauquelin is the most competent statistician (though he is obviously no astronomer). He claims in his books and in *The Humanist* to have proved the influence of the

9. See, e.g., C. Tart, *J. Amer. Soc. Psychical Res.* 71:375 (Oct. 1977).

planets' positions (in celestial "sectors" 1 and 4, identical to houses 12 and 9 of the custom-Placidian, "mundane" natal horoscope) on one's eventual choice of profession. Odds of millions-to-one are commonly cited in his writings. Such ferocious numbers are, typically, reared upon strikingly tame data, with the planets found in the allegedly influential slots at most 22 percent of the time instead of the chance expectation of 17 percent. After almost two decades of assiduous research he has not improved this spread but merely augments his samples—usually upping the odds, but convincing few if any orthodox scientists, since a real correlation should be increasingly isolated by further work. ("Duke" has had the same frustration.)

Our confidence in Gauquelin's freedom from bias is not enhanced by his misgraphing the results of the Belgian "Comite Para" (CP) check on his Mars-athletes link, in a way that suggests the success of the experiment by the confirmation criterion which Gauquelin explicitly agreed to at its start—the dominance of sectors 1 *and* 4 (*Journal of Interdisciplinary Cycle Research,* 3, p. 383). Gauquelin's graph (*The Humanist,* Jan./Feb. 1976, p. 31), shows sector 4 second highest—contra the actual CP data cited on the opposite page, itself also slightly altered, perhaps defensibly, from the CP's original report (p. 15).

In addition, we find an inverse correlation between size and deviation in the Mars-athletes subsamples (that is, the smaller the subsample, the larger the success)—which is what one would expect if bias had infected the blocking off of the sizes of the subsamples.

Finally, let us examine Gauquelin's own Mars-athletes scores (expected successes, 17 percent): in 1960, Gauquelin's score was 327 successes (success = Mars in sectors 1 or 4) out of 1485 (22 percent). The current figures are 332 of 1553 (21 percent). The post-1960 totals for the Mars-sports data he had taken are therefore 5 of 68, or 7 percent—a significantly *below*-chance score. "Astro-missing"? Even farther out in rear gear are the Jupiter-politician scores: 1960, 208/993; now 205/1003. *Minus* 3 of 10?

And a disturbing hint of loopholiness appeared when astronomer Jean-Claude Pecker pointed out in 1975 that Gauquelin's horoscopic analysis had inherent astronomical difficulties if applied to Arctic populations: Gauquelin replied, "My observations concern births occurring in Western Europe. Strictly speaking a methodological error can be sought only when results are compared under similar conditions of observation" (*Leonardo,* 8, p. 231, n. 21). Curious parochialism from the author of *The*

Cosmic Clocks. If subsequent retestings fail to confirm Gauquelin's theories, can he not similarly say: "My observations concern births occurring in Western Europe before 1945." And so on.

For these reasons I question whether Gauquelin's work is worth investigating by the Committee for the Scientific Investigation of Claims of the Paranormal at this stage—that is, until he can indicate some practical use of it. (He might, for example, show how to beat the posted odds on sports events by using Mars' placement in contestants' mundane horoscopes. This would, happily, put the burden of bias-sorting on his shoulders instead of the Committee's.)

For out-and-out statistical black comedy, nothing in my experience matches certain hitherto-unrevealed events of 1972-1973, which indirectly dragged the staid American Association for the Advancement of Science through the gaudiest slime of the yellow press.

To set the stage: On 30 December 1969, much thanks to the pleas of anthropologist Margaret Mead (1975 International Psychic Film Festival judge and President of the American Association for the Advancement of Science), the AAAS voted official affiliation with the Parapsychological Association. The PA's president that year was Prof. E. Douglas Dean, author of a number of Serious papers on ESP research (see, for example, the April 1976 *Journal of the American Society for Psychical Research*). A couple of years later one could find Prof. Dean affiliated with the well-known learned journal *National Enquirer* and with "psychic" Peter Hurkos (who is famous for placing his alleged powers at the service of the Hollywood needy; Hurkos was launched by the same impressario, Dr. Andrija Puharich, who later brought us Uri Geller). The offspring of this super union was a mass ESP experiment which the *National Enquirer* overeagerly billed in advance (in the issue of 1 October 1972) as the biggest ever.

The results were announced by Dean in the 7 January 1973 *National Enquirer* as having been "exceptional," "startling," "highly significant." "Among the 7,098 persons whose test results I personally analyzed," he reported, "2665—better than a third—had what I consider high ESP scores." The fine print? "Chance scoring out of 25 symbols [standard Zener run] would be 5 correct. . . . I took 6 or more correct as being high scores."

As anyone with the slightest statistical facility may easily verify, the dazzling "success" of the mass experiment was actually rather *worse* than chance would predict in 7098 runs: 2721 (±41) "high" scores. And there

wasn't even a good case for "psi-missing."

At the 1969 AAAS vote for PA affiliation, the AAAS evaluating committee was "satisfied that [the PA] uses scientific methods of inquiry." And Margaret Mead answered opponents at the meeting: "The PA uses standard scientific devices such as *statistics.* . . . " (Emphasis added.)

Thus her reaction to the Dean-*National Enquirer* debacle is significant for its turnabout (letter to the writer, 22 February 1973.)[10] "I think the ***trouble with all of these statistical tests*** is [the assumption] that there is an ESP quality which operates . . . irrespective of circumstances. Whereas [ESP or whatever] . . . operates under various kinds of emotional pressure, not routinely." (Emphasis added.) Of course, so do incompetence and cheating.

Did you ever dream that a Bait-and-Switch this gross could take in the AAAS and its president? Tophole BS it is—but science it assuredly is not; and it therefore has no place in the AAAS.

I conclude with the proposal that the Committee for the Scientific Investigation of Claims of the Paranormal formally request of the AAAS that it face up to its responsibility for this affiliation and—unless the PA can produce some scientific validation for simply the existence of ESP—either sever the connection or form new affiliations with the American Federation of Astrologers, etc. so as to allow the Association's good name to be used by *all* brands of oxplo books and articles and freelance charlatans to legitimize their craft in the paying public's eyes. •

10. Dean did not reply to a certified-mail letter of 11 January 1973, asking him to compute the chance score.

Book Reviews

Report on a Survey of the Membership of the American Astronomical Society Concerning the UFO Problem (SUIPR Report No. 681). By P. A. Sturrock. Institute for Plasma Research, Stanford University, Stanford, California, January 1977. 202 pp.

Reviewed by Philip J. Klass

"ASTRONOMERS SEE UFOs" was the headlines for the article in the *Oakland Tribune*. An Associated Press account, published in the *Contra Costa Times*, bore the headline: "MORE UFOs FOR STARGAZERS." And the United Press International account carried by the *New York Times* was headlined "FURTHER STUDY OF U.F.O.'s ENDORSED IN SURVEY." The *Times* article began: "Unidentified flying objects should be investigated further, a majority of trained astronomical observers said in a survey disclosed today."

It all seemed so logical. After all, a Gallup Poll taken in 1973 indicated that 11 percent of the adult United States population claimed to have seen a UFO. One should naturally expect the astronomers, many of whom spend many hours in gazing at the heavens, to be even more prolific sighters of UFOs. And if some UFOs are, or might possibly be, extraterrestrial craft visiting Earth, who should be more interested in the subject than astronomers?

But things are not always as they first appear in the "Strange Land of UFOria." These wire-service and newspaper accounts were based on a three-page press release issued by Stanford University, a press release presumably approved by the professor who had conducted the survey, Dr. Peter A. Sturrock. The press release recounted a handful of "Gee Whiz" type UFO reports obtained in the survey of members of the American Astronomical Society (AAS), which could easily suggest that these tales were typical of all reports from AAS members. But in fact they were atypical.

The press release identified Sturrock as an astrophysicist and member of the Stanford University applied physics department. It did not disclose anything about the extent of Sturrock's previous activities in the UFO field nor his very close association with Dr. J. Allen Hynek, currently the spiritual leader of the "UFO-believers."

Sturrock personally organized two symposia dealing with UFOs, the most recent held in Pasadena in January, 1975. The seven other "UFOlogists" that Sturrock invited to speak included Hynek and six others affiliated with Hynek's Center for UFO Studies. Based on my firsthand knowledge of the panelists and/or

their writings, I would characterize all of them as "believers" or "quasi-believers." *By a curious coincidence, Sturrock avoided inviting even a single experienced skeptic-UFOlogist.* Perhaps he feared that even a lone skeptic might poison the unanimity of viewpoint offered to the audience.

At the end of Sturrock's 202-page UFO survey report he thanks several persons for helping him frame the survey questions. These include Hynek and Dr. David Saunders, another dedicated "believer." Sturrock also thanks Hynek's long-time associate in UFOlogy, Dr. Jacques Vallee, for "introducing me to this fascinating but refractory problem." So far as is known, Sturrock did not seek assistance from a single experienced UFO-skeptic in framing the survey questions.

This may explain why Sturrock's UFO survey contains some slightly "loaded" questions, such as the following:

Do you think that the UFO problem (check one)

a. Certainly deserves scientific study ( )
b. Probably deserves scientific study ( )
c. Possibly deserves scientific study ( )
d. Probably does not deserve scientific study ( )
e. Certainly does not deserve scientific study ( )

Note that *three* of the five answer-options are worded so as to be favorable to "scientific study" of UFOs while only *two* are unfavorable. One could interpret *c* as indicating that the respondent believed that *possibly* UFOs do *not* deserve scientific study, *but Sturrock chose not to do so.* Of those responding, 23 percent checked "certainly deserves scientific study," 30 percent checked "probably deserves," and 27 percent marked "possibly deserves." By interpreting all *three* of these as approval of further scientific study, the Stanford University press release could state: "A survey of trained observers of the skies, all members of the American Astronomical Society (AAS), indicates that most of them feel UFOs (unidentified flying objects) deserve further scientific study."

Probing beyond the questionable interpretation of the three "pro-UFO" and two "anti-UFO" choices offered AAS members, careful analysis of the full report provides grounds for questioning Sturrock's self-serving conclusion.

The original two-page questionnaire was mailed to 2,611 members of the AAS. Thanks to its multiple-choice format, it should have required *no more than five minutes time to complete the survey,* and probably considerably less. Of the 2,611 questionnaires sent out, 1356 responded, or slightly over half. Sturrock, commendably, sought to determine whether those who responded were a representative sample of the total membership. To do this, he sent out a very brief questionnaire *that would take less than two minutes to complete* to 100 AAS members, selected at random, who had failed to fill out and return the original questionnaire. In this short-form survey, he asked whether the failure to return the original questionnaire had been intentional or unintentional and he asked for a response to the same question of whether the respondent thought UFOs deserved scientific study.

Only approximately half of the AAS members who received the follow-up

short-form bothered to fill it out and return it. By analyzing these responses and comparing them to those from the 1,356 original respondents, Sturrock concluded: "It seems that those with positive opinions (who think the subject deserves study) tend to respond to inquires whereas those with negative opinions tend not to." This not-surprising finding indicates that those AAS members who responded to the original questionnaire are, as a group, at leastly slightly more "pro-UFO" in their attitudes than the nearly equal number of AAS members who did not bother to respond. *To this degree at least the sample is biased in a "pro-UFO" direction and this caveat might have been mentioned in the Stanford press release, which it wasn't, or more prominently in the Sturrock report itself.*

It also is interesting to note that Sturrock's survey offered AAS members no opportunity for value-judgement, to express relative priorities for allocation of funds for scientific research in UFOs versus research in astronomical areas versus research in nuclear power-plant safety versus preventing teen-age pregnancies.

Despite Sturrock's seeming reluctance to let AAS members offer a value judgment on the relative importance of further research on "the UFO problem," his report unwittingly reveals that AAS members have already done so, in a very meaningful way.

Sturrock reports that seven of the AAS respondents "stated that they were actively studying the UFO problem." Clearly, these seven members believe that the "UFO problem" is sufficiently important that it deserves the investment of their time, presumably on an extracurricular basis. *But these seven represent only one-half of one percent [0.5 percent] of the 1,356 AAS respondents, and only one-quarter of one percent [0.25 percent] of the total AAS membership originally polled.*

While the Stanford University press release quoted by so many newspapers states that "a survey of trained observers of the skies, all members of the American Astronomical Society (AAS), indicates that most of them feel UFOs . . . deserve further scientific study," it would seem that very few of them feel so strongly as to be willing to invest their own time.

The original questionnaire asked the respondent if "he witnessed or obtained an instrumental record of any event which he could not identify and which may be related to the UFO problem." A total of seventy respondents answered "yes." This is 5.2 percent of the original respondents *but only 2.7 percent of the total AAS membership polled,* and compares with 11 percent of the general public that claims to have seen a UFO, according to the Gallup Poll. The 2.7 percent figure seems the more meaningful because of Sturrock's not-surprising findings that AAS members who had had unexplained sightings were more interested in the subject and more anxious to assist in resolving the "mystery." Presumably, any AAS member who had had a UFO sighting would have taken five minutes to fill out and return the questionnaire.

To enable Sturrock to follow up with those who had had unexplained sightings, he asked respondents to sign their names but assured them that their privacy would be protected. He sent the seventy respondents a longer questionnaire and from this Sturrock obtained a total of fifty-three firsthand visual sighting

reports, corresponding to 2.0 percent of the total AAS membership if one ignores multiple reports from several respondents. Two of the fifty-three sightings resulted in photos. Also there were a few reports of radio radar and photo anomalies *where there had not been any visual sightings.* It is these first-person AAS member reports that are the most interesting part of the report, especially ten accounts in which the UFO became an "IFO"—Identified Flying Object.

One of these occurred around 5 p.m. while the AAS member was driving near Pensacola, Florida, during the summer of 1960. "I suddenly sighted ahead . . . a classic 'flying saucer.' It had a bright aluminum hue and the familiar shape. . . . To say that I was excited would be an understatement. When we approached the area known as Pensacola Beach . . . the 'object' was seen to fade rapidly from sight. [NOTE: sudden, mysterious disappearance is characteristic of some UFO reports.] In the place where it had been seen there was observed to be a very thin and almost transparent cloud layer at an altitude of about one thousand feet. . . . The 'flying saucer' phenomenon was the result of sunlight reflected from this thin cloud layer which was small and localized."

One of the most instructive and detailed reports came from a professional astronomer who noted that he specializes "in observational work, and have spent thousands of hours outside looking at the nighttime sky." Yet what this AAS member saw on the night of October 5, 1973, at approximately 8 p.m. MST from near his home in Tucson, Arizona was—to use his own words—so "striking and unusual" that he was motivated to write down his observations while still fresh and to launch his own investigation—something that most of the other AAS witnesses had failed to do.

Investigation revealed that the "striking and unusual" object was a Titan-2 intercontinental ballistic missile (ICBM) that had been launched a few minutes before the sighting from Vandenberg Air Force Base, California, more than 500 miles away. Once the UFO was identified, this professional astronomer re-examined his original sighting report. Not surprisingly, he reported finding "several inaccuracies and inconsistencies." Then he added that this *"is perhaps typical of the reliability of a UFO observation by a trained observer."* (Emphasis added.)

Curiously, this incident was *not* one of those selected for mention in the Stanford University press release despite its importance in demonstrating that even an experienced professional astronomer can be mystified by something that has a prosaic explanation. For this reason, the incident was not included in any of the resulting newspaper articles or wire-service dispatches.

Shortly after this respondent's original sighting, he had reported the incident to APRO (Aerial Phenomena Research Organization), a large Tucson-based UFO-believer group. Later, after the UFO had been identified, he submitted his report to APRO's case investigator. "I find it interesting," the AAS respondent wrote, "that the [APRO] investigator, who is a graduate student at the University of Arizona Department of Astronomy, was more prepared to believe that my report, and others of the same evening, were of genuine extraterrestrial visitation rather than the more realistic Titan missile launch." This is another sage observation that strikes at the underpinnings of "the UFO problem."

If human observers can sometimes mistake prosaic objects for UFOs,

electronic radar would seem to be much less vulnerable—at least to the general public. The Sturrock report and Stanford University press release offer the following brief radar sighting that reportedly occurred in 1951 near Cape May, New Jersey. "Respondent was operations officer on a U.S. ship when radar tracked a solid object, *not a false radar echo* [Emphasis in original], at speeds of up to 5,000 mph. Object halted suddenly and climbed vertically above Nantucket and out of radar coverage at above 150 miles up." (Sic)

Very impressive—unless one has some expertise in radar. Shipboard radars in 1951 did not have the ability to *"track"* anything, at any speed. In that era, as with most shipboard radars today, the equipment is designed simply to provide surveillance and to show target bearing and distance. Shipboard radars of that early postwar era, and even most of them today, *do not have any height-finding capability.* Thus there was absolutely no way that the radar operator, or the AAS member, could determine that the "UFO" had "climbed vertically."

If the "UFO blip" suddenly stopped moving and a short time later disappeared, one *possible* explanation is the one offered, although the 150-mile figure is grossly in error because shipboard radar coverage did not extend to even 10 miles altitude. But a much more logical explanation for the incident is that the blip was a "radar angel," caused either by anomalous propagation conditions or by pulses from another land/shipboard radar. In the 1950s, the Defense Department had so much trouble with military radar operators mistaking "radar angels" for real targets that it prepared a training film to educate the operators on the anomaly, as recounted in my book *UFOs Explained* (Random House, 1975). Whatever this AAS respondent's credentials are as an astronomer, it is clear that he lacks expertise in radar.

In the original questionnaire, Sturrock sought to determine AAS member views as to whether UFO reports have prosaic/terrestrial explanations or whether respondents accept or lean toward the popular hypothesis that UFOs are really extraterrestrial devices. This multiple-choice question offered six general terrestrial/prosaic possible explanations, a seventh as "a cause you cannot specify," and finally the eighth option: "a technological device not of terrestrial origin." Respondents were asked to assign probabilities to each so that the total equaled 1.0.

For the 1,356 respondents to the original questionnaire, the average assessment that UFO reports might involve extraterrestrial devices was *only* 0.03—*the lowest figure for any of the eight choices.* The sum of the average probabilities for the six terrestrial/prosaic possible explanations was 0.90, and, "a cause which respondent cannot specify" got the remaining 0.07.

And what of those AAS members who had themselves had UFO sightings, or had obtained anomalous radio/radar signals or photographic images? What probability did they assign to the possibility that their experience was caused by an extraterrestrial device—especially after their more extensive reading on the subject where the vast majority of the literature promotes the extraterrestrial hypothesis?

This group of AAS witnesses estimated the probability that their incident was caused by an extraterrestrial device at *only* 0.05, compared to a probability of 0.81

that it had a prosaic/terrestrial explanation, with the remaining 0.14 for "unspecified cause." *None of the witnesses offered a probability estimate of more than* 0.3 *for the extraterrestrial hypothesis.*

In 1975-76, Sturrock attempted to obtain a grant of approximately one-quarter million dollars for his UFO studies from several large philanthropic foundations, without success so far as is known. Possibly officials of these organizations rejected Sturrock's request for funds in the belief that the subject of flying saucers smacked too much of pseudoscience to warrant their financial support. Perhaps they will be more receptive in the future, especially if these officials read the UPI/*New York Times* article that began: "Unidentified flying objects should be investigated further, a majority of trained astronomical observers said in a survey disclosed today." People tend to believe what the read in the *Times.*

Perhaps Sturrock has drawn the correct conclusions from his survey data and mine are in error. In this event one might soon expect that the American Astronomical Society will respond to the interests and desires of its members by sponsoring UFO symposia and that the AAS will speak out publicly, urging that the government sponsor UFO studies and investigations. Time will tell. •

Reviewed by John P. Robinson

From the perspective of a social psychologist with specialized experience in social surveys, the application of survey technique to the UFO controversy arouses both curiosity and skeptism. Gallup and other pollsters have shown that considerable numbers of Americans feel they have seen UFOs; secondary analyses of these data have indicated that higher than expected proportions of them live under the pressures of "status inconsistency"—that is, a discrepancy between what they have achieved and should have achieved. The report by Sturrock allows us to examine a possibly more sober and settled group who monitor the habitat of UFOs more systematically and more often than the general public, namely astronomers.

Although I have not exhaustively examined the topic, no other survey of astronomers is presented by Sturrock so that we might know what to expect of the membership of this profession. What kind of people are attracted to this branch of science? Compared to other physical scientists or social scientists, are astronomers more or less gregarious, more or less humorless, more or less likely to have had mystical experience or used drugs, more or less likely to belong to fundamentalist or occult religious sects, more or less skeptical of other paranormal phenomena, more or less given to extreme sociopolitical beliefs, or more or less likely to have been socialized in a family context where they were expected to "be somebody" or to make some personal contribution to society or to science?

The lack of information on any of these variables makes this survey of about half (1356 out of 2611) of the members of the American Astronomical Society more limited in scope and interest than appears at first glance. To be at all interpretable or meaningful, survey percentages need to be compared to something. It is hard to know, then, what to make of the 5 percent of the astronomical society who said

they had personally "witnessed or obtained an instrumental record of any event . . . related to the UFO phenomenon." Is 5 percent higher or lower than the population as a whole, or what would be found among members of chemical, anthropological, or engineering societies, or astronomers 50 or 200 years ago? If higher, could this be due to the vested interest astronomers might have in calling attention to phenomena in their own discipline? Given the greater amounts of time astronomers spend observing the sky, one would also expect a higher rate of sightings than among other scientists. No such comparisons are available in this study.

Some comparisons of witnesses and nonwitnesses are given within this report, but only on the few survey variables available for analysis. We do find that witnesses are twice as likely (16 percent versus 8 percent) to be amateur night-observers and more likely to be professional night-observers (63 percent versus 50 percent) as well, and that they have spent more time studying UFO literature (although the question of whether this occurred prior to or after their sightings was not asked), particularly through case materials, firsthand investigations and other sources (although scientific publications are cited as their major source of information). Witnesses are described as no different than nonwitnesses in terms of age and education although the numerical data are not reported. Given that 80 percent of the monograph is devoted to the accounts of forty-five of these witnesses, one would like to know much more of their backgrounds. These accounts do make occasionally fascinating reading since they seem to be made by sober and responsible observers, genuinely perplexed, embarrassed, or moved by their experience.

Nonetheless, the report's mode of presentation would appear more balanced if it had been prefaced by a complete comparison of the characteristics of witnesses and nonwitnesses, or if the 150 odd pages of accounts had been organized in some systematic fashion. The inclusion of reactions of skeptics (such as respondents C1 and C6 on page 197), who could report on the details of colleagues' specific "sightings" that they know to be fictional or otherwise suspect, would also have enhanced the report's credibility.

Most of the cross-tabulations in the report, then, concern the "secondary variables" in the survey (p. 15), namely attitudes and perceptions. On a five point scale, 53 percent said the UFO problem "certainly" or "probably" deserves scientific study compared to 30 percent who said "certainly not" or "probably not." Again variations in these percentages are far more meaningful than these simple figures. Younger astronomers (under age thirty or forty) respond much more positively than older astronomers (past age sixty) and those without Ph.D.'s more so than those with M.S. or B.S. degrees. Whether age or education is the major factor at work in these relations is left moot, even though a rudimentary three-way tabulation could have separated cohort effects from the effects of advanced scientific training.

Something of a multivariate approach is attempted with the three-way relation between attitudes, witnessing, and time spent studying UFOs, but the computational procedures are not described. It is concluded that the not surprisingly more favorable attitudes of witnesses (80 percent say UFOs certainly or probably deserve study) are not affected by their greater study of the UFO phenomena.

Witnesses are also slightly more likely to assign higher probability estimates to "exotic" explanations of the UFO phenomena, such as alien device or a hitherto unknown natural phenomenon. However, only 10 percent of these witnesses attributed these two explanations to UFOs *after* their experience, compared to 14 percent who claimed such beliefs *prior* to their sighting. Witnesses reported post-experience drop in attributing UFOs to hoaxes or unfamiliar natural phenomena and an increase in describing them as unfamiliar terrestrial devices or some specific other cause.

If the criterion of a good scientific report is to raise more questions than it answers, this attempt has been successful—although most of this reviewer's questions could have been answered by better organization of material, application of basic multivariate survey techniques, background information on astronomers as a scientific profession and inclusion of survey questions and motivation for doing the survey in the first place. The survey achieved an impressive response rate *for a mail survey* (indicating high respondent interest), undertook a laudable follow-up procedure to ensure survey respondents were not a biased sample (although a further telephone follow-up of the remaining nonrespondents might have erased any lingering doubts) and employed question formats that generally avoided the obvious errors in question wording that usually occur in surveys conducted by inexperienced poll takers. Interest in UFOs among astronomers is probably greater than most of us outside of the profession would have imagined, and a few can regale us with tales from the "Twilight Zone." That interest (but not sightings) is highest among younger astronomers may be a most significant indicator of the types of research we may expect from the members of this profession in the future. •

P. A. Sturrock comments on Klass's review:

The Zetetic is presented as "The Journal of the Committee for the *Scientific* Investigation of Claims of the Paranormal." As I pointed out on page 7 of my report, one interpretation of the principal objective of science is given by Ziman ("Public Knowledge: An Essay Concerning the Social Dimension of Science," Cambridge University Press, Cambridge, 1968, p. 9), namely, to achieve "a *consensus* of rational opinion." The protocol of scientific exchange, as exemplified by the editorial policy of respected refereed journals, is directed towards this end. The author of a scientific result is expected to present the results of his research, not to present his personality profile, motives, beliefs, or lists of friends and enemies. He is also required to avoid prejudicial terms such as *believer* and *skeptic*, terms which are in any case quite inadequate to characterize the complex attitudes of the investigators to whom these terms have been applied. Any result which depends upon the prejudice of the investigator is scientifically worthless. Only results which are consistently independent of the prejudices of the investigators are likely to contribute to the "consensus of rational opinion" and therefore be scientifically significant.

In addition to these general comments, I have the following specific

comments prompted by identifiable items in Mr. Klass's review:

1. I am not responsible for articles published in the news media unless I wrote those articles.
2. The only summary which I have written of my report is that contained in the report.
3. The report was circulated to many scientists for comment before publication. This is normal scientific practice and it is my normal practice.
4. Most of my scientific colleagues are skeptical of the significance of the UFO phenomenon. However, as scientists, they make every attempt to separate their prejudice from their assessment of evidence.
5. Each question used in the survey means exactly what it says.
6. Table 3.7 of the survey shows that 81 percent of respondents would wish to help in resolving the problem if they could see a way to do so. Of these, only 13 percent could see a way to do so.
7. Since receiving the draft of Mr. Klass's review, I have checked further into the radar case. The respondent was an air controller, had nine years of radar and "combat information center" experience, and had the rank of lieutenant. The respondent has given me further information concerning the types and capabilities of the two radar sets on board the ship: one was a search-type radar and the other was designed for height determination. I have confirmed that the equipment which he specified was in service at that time and had the capabilities which he described.
8. Concerning the rumor that I attempted to obtain a grant of one quarter million dollars in 1975-76 for UFO (or any other) research, I note that Mr. Klass is a "believer."

P. A. Sturrock comments on Robinson's review:

The UFO problem can be viewed from many directions. Dr. Robinson's review indicates how it may be seen from the perspective of a social psychologist. From this viewpoint, interest in my report (length 202 pages) appears to end at page 43.

Dr. Robinson would like to see a statement of my motivation for carrying out the survey. A statement of motivation may be normal practice among psychologists but is certainly not normal practice among physical scientists. My reasons for carrying out the survey are in fact given on page 8: my aim was simply to collect some basic information about the UFO problem from a group of scientists and feed this information back to them in the hope that this would promote more interest in the subject among scientists.

My more basic motivation for being concerned about the UFO and other anomalous phenomena has the form of a nightmare: I am aware that many scientific advances, such as the Copernican revolution, were delayed because scholars were so sure of the prevailing theoretical world-view that they refused to look at conflicting evidence. It is very easy to see such errors with the benefit of hindsight, but I cannot help wondering whether we (today's scholars) are perhaps guilty of the same—or some similar—mistake, which is not obvious to us but may

be glaringly obvious to school boys and school girls of the twenty-first or twenty-second century.

Dr. Robinson would also like to see a comparison of results obtained from astronomers with results obtained from another group of scientists. I refer, on page 8, to a similar but smaller survey of a group of aeronautical scientists and engineers which I published in 1974 (*Astronautics and Aeronautics,* 12, No. 5, p. 60).

Dr. Robinson also states that some of his questions could have been answered had I included the survey questions. Every letter and every questionnaire which I mailed out has been reproduced on pages 186 through 196.

I completely agree with Dr. Robinson's suggestion that much more information could be obtained from the returns than is presented in my report. I was attempting to avoid a model-dependent analysis. This is the reason that the accounts of witnesses is ordered in a very rudimentary manner: they are grouped into very broad categories, and ordering in each category is by the length of the accounts. To go into three-way correlation analysis would be a tremendous amount of work if it were complete. If it were not complete, it would be selective and is therefore likely to be model-dependent.

The data is intact and the data used in Section 3 of the report is in computer-readable form. If a psychologist or sociologist or statistician has an interest in more detailed analysis of the data, I would be happy to collaborate with him or her. However, if a psychologist wishes to analyze the psychological traits of scientists (witnesses or nonwitnesses of UFO events), this would call for a completely different approach which he or she must undertake from scratch.

Without a Trace. By Charles Berlitz. Doubleday & Co., Garden City, New York, 1977. 180 pp. $7.95

Reviewed by Larry Kusche

I have only one major complaint about Charles Berlitz's book, *Without a Trace.* The objection is that it is labeled "non-fiction." Many undiscriminating readers will unfortunately assume, as they did with his earlier book, *The Bermuda Triangle,* that "nonfiction" and "true" are synonymous. Other readers, who consider themselves to be more skeptical, may feel that Berlitz is presenting "the facts" as best he can, but that his reasoning and his conclusions, might be a little "far out."

Neither case is correct. Nonfiction need not be true anymore than fiction is necessarily false. Most of the books on the current fiction best seller list probably contain more truth than both of Berlitz's Triangle books put together. If he *were* presenting the facts to the best of his ability, then drawing conclusions different from what others might arrive at, all might be forgiven. Different conclusions

taken from the same set of facts are certainly understandable. What is not forgivable, however, is Berlitz's consistently inaccurate presentation of "the facts," time after time, in case after case.

If these inaccuracies are intentional, *hoax* or *fraud* would not be improper words to use. A fraud in almost any field risks penalties such as fines or jail sentences. A fraud in the world of publishing "risks" nothing worse than growing rich under the protection of the First Amendment which permits him to say *anything* he wishes, whether it is true or not, as long as it is not libelous. He will be paid handsome fees by the taxpayers for parading through the university lecture circuit where he will mislead the students, warp their thinking processes, and turn them even more against "the establishment."

Even if a given writer's prodigious and consistent outpouring of unfacts is not deliberate, we still must wonder why he is considered to be an expert on the topic, and why people pay to be annointed with his miswisdom. Suppose, as a simple example, there was a baseball player who frequently made errors, and who had a very low batting average. He rarely ever did anything right. Yet his book on how to field and hit became a bestseller, and he was invited to all the great lecture halls to share his knowledge, despite the protests of the great fielders and hitters in the game who said that his theories were nonsense. Ridiculous, of course, but that is exactly the situation with the Bermuda Triangle. Berlitz's first book became a bestseller only because it was the first hardcover to be published on the subject. It was the first hardcover only because a cut and paste job is quicker and is easier to write than a book for which the author takes the time to do the painstaking research, in original sources, to insure that what he writes is accurate. One might wonder when looking at the list of books published on the Triangle, ancient astronauts, and UFOs, whether there isn't a law of publishing on so-called occult subjects that states that the amount of publicity, the sales, and the royalties of a book are all inversely proportional to the writer's knowledge of the subject.

To discuss all of Berlitz's factual errors, omissions, misleading innuendos, and technical mistakes would require an encyclopedia. The correction is usually considerably longer than the mistake. I have space here to discuss briefly only a few, most of which were already discussed in my book on the subject, *The Bermuda Triangle Mystery—Solved* (Harper & Row, 1975). Although my information, taken from reports of Lloyd's of London, the U.S. Coast Guard, and other reliable agencies and publications was freely available for Berlitz to use in his second book, he chose to ignore it while continuing to cut and paste from notably unreliable sources. Perhaps his scissors won't cut anything of substance.

To pick just a few examples from *Without a Trace*, Berlitz mentions the *Raifuku Maru*, which "disappeared east of the Bahamas." He neglected to inform his readers that I reported, from Lloyd's records, that the ship actually sank in a severe storm (is that what is called a disappearance?), off Boston. He mentions the"disappearance" of the *Cotopaxi*, the *Suduffco*, the *Gloria Colita*, the *Rubicon*, the *City Belle*, the *Sandra*, Al Snider and many others, *all* of which I showed several years ago were victims of weather. Recall that, as he frequently reminds us, the mystery of the Triangle is why all those ships, planes, and people disappeared in *good* weather. His credibility is so low that it is virtually nonexistent. If Berlitz

were to report that a boat were red, the chance of it being some other color is almost a certainty. He says things that simply are untrue. He leaves out material that contradicts his "mystery." A real estate salesman who operated that way would end up in jail.

For good measure, Berlitz has the freighter *Hewitt* disappear twice, in 1920, then again in 1921. That in itself, as they say, suggests still another mystery. He misspells *Gloria Colita* and Al Snider. In his previous book he spelled one man's name two different ways on facing pages. The last time I heard him pronounce my name he still had it wrong. These mistakes are unimportant in themselves, but they show his lack of attention to detail, his carelessness. They make a person wonder whether he actually did any research. Not surprisingly, his spelling mistakes are the same as those of previous writers whom I have also shown to be unreliable purveyors of information. If Berlitz can't get the little things such as spellings right, if he is factually wrong about such simple technical matters as ground effect on an airplane or the workings of magnetic variation, why should anyone expect him to be correct in his discussions of great newly discovered (or suspected) cosmic forces of the universe?

As another example, in "Eastern Airlines, which suffered a loss by disintegration of Eastern Flight 401. . . ." he fails to mention that the "disintegration" occurred when the L-1011 flew into the ground while the crew, with the autopilot turned off, worked on a problem in the cockpit. Being over the Everglades at night, with no outside lights for reference, they failed to realize they were losing altitude. In the interest of honesty, of being fair with his readers, Berlitz should have informed them of this information, then explained why he still felt the crash was mysterious and why it had anything to do with the Triangle.

There are many other blatant examples of dishonesty. He has Columbus reporting "what appeared to be a fireball which circled his flagship. . . . " Columbus did report in his log a "great flame of fire" that fell into the sea, but he did not say that it circled his ship. The meteor caused no consternation among the crew and was noted in the log merely because of its size. Berlitz also claims that the crews became upset when the ships' compasses "began to turn in complete circles." Had he bothered to read either Columbus's log or my book, he would have found that the compasses began pointing slightly further away from the north star as the ships moved to the west. Nowhere does Columbus report that the compass turned in circles or did anything other than slowly progress to where they pointed six degrees away from the North Star. Columbus reasoned correctly that the compass did not point to the North Star as European man had always assumed, but that it pointed to something else in the north which was not in alignment with the North Star, as one moved to the west. Magnetic variation is a simple matter, known to any competent Boy Scout, beginning sailor, or pilot. Columbus figured it out for himself almost 500 years ago. Berlitz still doesn't seem to understand it (giving him the benefit of the doubt as to whether he might be deliberately ignoring it) even though any elementary book on beginning navigation would explain it to him in simple terms. Berlitz even has the audacity to connect Columbus's death to the Bermuda Triangle. Many of his rationalizations and "explanations" are laughable until one recalls that so many people believe them.

Berlitz informs his readers that the "northern extremity of the alleged [Alleged? Could it be that, skeptic that he is, he is not quite convinced that it exists?] Triangle" is Bermuda. Then he lists, among others, as mysteries of the Triangle, the *Atalanta,* which "disappeared" [he automatically assumes that it sank (or whatever) close to Bermuda, rather than toward the end of its journey, and ignores the known severe weather of the time] between Bermuda and England; the *Sam Key,* northwest of the Azores; and a Globemaster aircraft on the "northern edge of the Triangle" in March 1950. It actually exploded and crashed 600 miles west of Ireland in March 1951. That, of course, confirms the existence of time warps and the suspicion that the Triangle has very wide edges. Scientists haven't yet learned why this is true, but most of them are frantically working on it.

Many other vessels are listed as victims of the Triangle when they actually sank (or whatever) hundreds, even thousands of miles away from "that infamous little patch of ocean off our back doorstep." Perhaps the most comical of Berlitz's misplacements offered as "proof" of the mystery of the Triangle is the case of the *Freya,* a bark "found abandoned, Cuba to Chili, in 1902." Reliable sources reveal that the boat was indeed found abandoned. The only problem is that it was found in the Pacific Ocean, west of Mazatlan. I would like to hear Berlitz's explanation of why he can't keep his oceans straight. A little sloppy there, Charles.

Berlitz found room in *Without a Trace* to devote two paragraphs to my book on the Triangle. He reports that I "expressed the point of view that the mystery has been solved because there never was any mystery in the first place." First, I did not merely "express the point of view," I proved my solution overwhelmingly. Second, I have never, ever, said or written that there was "no mystery." I say in fact that there was a mystery, most definitely. What Berlitz withholds from his readers is that I concluded that the Triangle was, to use a polite term, a "manufactured mystery" which has grown because of careless research, misconceptions, errors, omissions, and sensationalism by writers such as Berlitz and many others. Other writers, less polite than I, have called the Triangle a hoax, a ripoff. It is interesting that when Berlitz disagrees with me it is done by misquotation. When I disagree with him it is by direct quote, letting him condemn himself with his own words.

Berlitz reported that I placed a "somewhat touching reliance on long-distance telephone calls" for my research. He neglects to mention the hundreds of reports and articles from Lloyd's of London, the Coast Guard, the Navy, newspapers, and other reliable sources that I used. He attempts to give the impression that his information comes from on-the-spot coverage rather than from rehashed articles from the tabloids and from fellow misinformation merchants such as John Spencer, Richard Winer, Alan Landsburg, Vincent Gaddis, Ivan Sanderson, and others.

He has refused many invitations from radio and television stations, and from at least one university, to debate me. Perhaps it is because he knows that not only can I point out his myraid errors, I can also supply the information that he has chosen not to reveal to his victims. Excuse me. His readers. He will not allow anyone to tape-record his lectures. Now, if I were out stumping across the country warning mankind about strange forces just outside our back door, I would want my gospel to be spread as far and wide as possible, by any means. If, however, I were only interested in selling my book, or would not want to have my talk

dissected later at leisure, I would not allow my talk to be taped either.

I will remain polite and continue to call the Bermuda Triangle a manufactured mystery rather than a hoax or a fraud. I submit *Without a Trace* as further evidence that should convince anyone with even a smidgen of logic and intelligence that *my* conclusion is the correct one. I find the most interesting aspect of the Triangle is not the "disappearances" and the solutions themselves, but the methods used by the writers, and the fact that so many people fall for them.

Perhaps the most revealing remarks about the Triangle come from the publishers, those who decide what is to be foisted upon the public, and what will not. I confess that I have written a second book about the Triangle. It is thoroughly researched and well written. That is what most of the rejection letters say. Why, then has the book been rejected so far (this is being written in July, 1977) by the publishers? I will let them speak for themselves: "The book is not the sort of thing that aficionados of the paranormal would want to read." "Readers would prefer to read about additional mysteries rather than solutions." "The feeling is that people really don't want plausible explanations." In other words, the publishers do not believe that people have the intelligence to want the truth. Where is their concern for those people who have the curiosity, the craving, to want to know the "real truth," rather than merely to be entertained by a collection of yarns?

Can we assume from the above quotations that if the publishers reject plausible (well-researched and accurate) books on "occult" topics, that the books that they do publish are not plausible and that they recognize them for what they are? Does the writer who prostitutes his skills and his profession, who knowingly repeats and creates innuendo, whose works reek with falsehoods, have the advantage in today's post-Watergate morality, pro-investigative reporter era? To anyone who thinks not, I recommend Charles Berlitz's *Without a Trace.* Keep a pen handy as I do and see how many errors and masterpieces of illogic you can find. Better keep two pens handy. Read *Without a Trace* and wonder what useful, more important, and worthwhile book might have been rejected by the publisher so this one could have a place on the assembly line. •

Reviewed by Philip J. Klass

If the Federal Trade Commission's powers to protect the public against deceptive advertising were broad enough to encompass nonfiction books, Charles Berlitz would be obliged to rewrite most of his new book *Without a Trace,* dealing with claims of mysterious ship and aircraft disappearances in the "Bermuda Triangle" and their possible relationship to "flying saucers." At the very least, the FTC could then require Berlitz to more accurately title his new book to reflect its contents, as for example, *With Barely a Trace of Fact.*

Berlitz begins his new book as follows: "I am the author of *The Bermuda Triangle,* a book that caused considerable controversy in 1975-76, and that has attained sales of over 5,000,000 in English and twenty other languages." He might have added, but didn't, that this has earned him more than a million dollars in royalties, an achievement that would not have surprised the late P. T. Barnum.

Berlitz goes on to explain: "The aim of this present book is neither to refute, inform, nor educate critics of the reality of the mystery, but rather to examine previously unrecorded and new incidents as well as current developments within the Triangle."

The author continues to ignore, as in his first literary bonanza, the undeniable facts—for instance, that *several hundred million scheduled airline passengers have flown into, out of, and over the Bermuda Triangle during the past quarter-century without a single airliner disappearing mysteriously in the Triangle.*

It is true that small, general aviation aircraft have disappeared in the area. For example, during the twelve-year period from 1964 to 1975, thirty such small aircraft did "vanish" there. *But more than three times as many "disappeared mysteriously" while flying over the continental U.S.* The wreckage of the latter are waiting patiently and may eventually be found. The small aircraft that went down in the Triangle are at the bottom of the ocean, which keeps its secrets better. These are the sort of indisputable hard-facts that Berlitz never mentions.

My information comes from the National Transportation Safety Board (NTSB), which investigates all aircraft accidents and missing aircraft that occur in the U.S. and those in adjacent water that involve U.S. aircraft. The same facts are readily available to Berlitz, simply for the asking. But he prefers other sources such as sensationalist tabloid newspapers, thirdhand accounts, and "old-wives tales." Most of the time Berlitz avoids giving specific details about an incident. This suggests either that he himself lacks such details, which necessarily prevents him from investigating the validity of the incident, or that he wants to frustrate the efforts of more rigorous investigators to check out the incident.

Typical is Berlitz's report of "a National Airlines flight to Miami [that was] lost on radar for ten minutes prior to landing. . . . Upon persistent questioning about their radar disappearance the pilots consulted their watches, noticed that they were ten minutes slow, then checked the plane's chronometer, the watches of the nonflying (sic) personnel, and made a discreet check among the passengers and found that all [passenger] timepieces has inexplicably lost ten minutes, apparently the exact time they had been off radar."

Berlitz does not say whether the incident allegedly occurred while the airliner was over the Triangle, or whether such mysterious events occur even over the mainland. More important, there is no mention of the date, let alone the flight number. Nor does Berlitz give the source of his "facts."

Consider another: "An Eastern Airlines (sic) flight suffers from a tremendous jolt, a loss of altitude and lands at a nonscheduled stop. Flying and nonflying (sic) personnel and passengers find that their watches have stopped at the approximate time of the jolt and the plane's fuselage shows indications of having suffered a fusing blast of intense heat or electricity." And what was the date of this alleged incident? If Berlitz knows he doesn't tell the reader, nor does he give the flight number.

On those rare occasions when Berlitz is more specific, the author's accuracy can be checked—with devastating results. For example, Berlitz tells of the "unexplained disappearance of Carolyn Coscio on June 6, 1964 . . . accompanied by a passenger, Richard Rosen, [who] was, according to her flight plan, due to refuel at

Grand Turk Island on her way from Pompano Beach through the Bahamas to Jamaica. At about the time she should have reached Turk in her Cessna 172, personnel of the small airport could see a Cessna 172 circle the island, could hear the voice of the pilot talking to her passenger, but could not make radio contact from the tower. The pilot observed that a wrong turn must have been taken, that the island was not Turk because 'there's nothing down there.' Then she was heard to express concern about the gas supply and to decide to fly to another island, followed by the curious question: 'Is there no way out of this?' "

Why the pilot was talking to her passenger via the radio, or with the radio turned on, is not explained. In a small Cessna 172, the two can converse directly. A check with the National Transportation Safety Board shows that a Carolyn Cascio (not Coscio) did indeed disappear in a Cessna 172 while flying from Hollywood (not Pompano Beach), Florida, to Jamaica. But the incident occurred on June 6, not June 7, and the year was 1969, not 1964. The NTSB investigation turned up none of the mysterious details that Berlitz reports. Instead, the NTSB summary of the incident states: "Pilot transmitted [that] she was lost and out of fuel." The NTSB records show that the twenty-four-year old pilot had only 235 hours of flying time and did not have an instrument rating to qualify her for flying in bad weather, had she encountered any during the flight.

Or consider Berlitz's claim that "an inordinate number of other lost flights were last heard from in December," suggesting that whatever the mysterious force that causes aircraft and ships to disappear in the Triangle, it takes its biggest toll during the month of December. Analysis of the NTSB records for the 1964-75 records (which I have in hand) show a total of thirty small, general aviation aircraft were lost in the Triangle during this twelve year period. If equally distributed over the twelve months of the year, there would be two and one-half disappearances in each month, but Berlitz claims an "inordinate number" occur in December. The records show that the months of January, February, and July each have four disappearances, or about 50 percent above the average, while December has only three, or only slightly over the average.

Berlitz claims that airplanes are continuing to disappear mysteriously in the Triangle "on the average of a plane about every two weeks," equivalent to twenty-six per year. Not so according to NTSB records. During the twelve years between 1964 and 1975, the average was only two and one-half per year, not twenty-six!

According to the author, the mysterious and evil forces of the Triangle sweep upward hundreds of miles into space where they cause U.S. meterological satellites (Met-Sats) to malfunction. This, according to Berlitz, occurs "*only* while over the Bermuda Triangle." His authority for this claim is Wayne Meshejian, a physics professor at a small college in Virginia with whom I am acquainted because I had earlier investigated the incidents and had been able to provide Meshejian with a very prosaic explanation.

I had first learned of the seemingly mysterious malfunctions from an article published in the July 15, 1975, issue of the *National Enquirer.* As a senior editor with *Aviation Week & Space Technology* magazine I was especially curious because we had not heard of such malfunctions. I telephoned Meshejian on July 17 for more details. Then, when my busy schedule permitted, I made a few telephone

calls and soon had located knowledgeable scientists at the National Aeronautics and Space Administration (NASA) and the National Oceanic and Atmospheric Administration (NOAA). For these scientists who knew the inner workings of the Met-Sats, there was no mystery.

These Met-Sats orbit earth at approximately 900 miles altitude and are designed to obtain cloud-cover imagery from around the globe. This data must be stored in tape recorders until the satellite comes within transmission range of a ground station, one located in Alaska and the other at Wallops Island, Virginia, not too far from the Bermuda Triangle. As a free service to foreign countries and to experimenters, like Meshejian, who build small, inexpensive ground terminals, the Met-Sats also transmit cloud-cover imagery of the region they are passing over. But this "real-time" service, as it is sometimes called, is necessarily of secondary priority to the global survey mission.

If a Met-Sat's orbital path on any particular day does not bring it within range of the ground station in Alaska, then its tape recorders will be bulging with accumulated imagery data. Under these conditions, the data from *both* recorders must be transmitted down during the brief interval that the Met-Sat is within view of the Virginia station. This makes it necessary to shut off the real-time imagery service. This occurs sometimes as the Met-Sat is approaching from the north, and results in a blackout of real-time service over the North Atlantic, as well as when the Met-Sat is further south—over the Bermuda Triangle. (Recall the Berlitz claim that the blackout occurs *only* over the Triangle.)

Although the Met-Sat's orbital period is relatively constant, the ground track of its orbit is ever changing, so the blackout does not occur every day, or even for precisely the same interval of time when it does occur. Thus it could easily seem mysterious to an experimenter unless he made a rigorous effort to locate and talk with knowledgeable scientists at NASA or NOAA.

Contrast what actually happened after my own investigation with the version offered by Berlitz. My files show that on August 22, barely a month after the July 15 article appeared, I called Meshejian to explain what I had learned from the NASA/NOAA specialists. And by September 6, I had found time to write him a detailed letter, enclosing charts of Met-Sat orbital paths relative to the two ground stations to enable him to better understand the situation. A few weeks later, I sent Meshejian a copy of my article from *Aviation Week*, explaining the seeming anomaly for our readers and those who might operate small ground stations. *Meshejian never bothered to acknowledge receipt of either letter, nor a follow-up letter asking if he had received the material.* It was apparent from our telephone conversation that he was embarrassed to find the blackout had a prosaic explanation.

Here is the Berlitz version of the above events: "Professor Meshejian was later contacted by the pertinent government agency, and it was suggested to him that it would be helpful if he disclaimed his report. . . . " (Berlitz seems to suggest that the government was trying to hush up the matter because of its inability to explain the blackout. Nothing could be further from the truth, as I found when I made my inquiries, for there is nothing to hide.)

Berlitz continues: "An official explanation finally offered to Meshejian held

that the 'blackout' was due to rewinding [of spacecraft tape recorders] although if this were so, the automatic rewind operation would be a surprisingly inefficient one. . . . " If Berlitz, or Meshejian, can come up with a better way to operate the spacecraft than the one its designers have devised, I'm sure that NASA and NOAA scientists would be willing to listen.

"It is further noteworthy," Berlitz writes, "that this explanation was offered a full six months after publication of the Meshejian findings." Nonsense! I explained the situation to Meshejian on August 22 by telephone, barely five weeks after the *National Enquirer* article, and my detailed written report of September 6 was sent less than two months after the article. Perhaps this Berlitz discrepancy is due to the "time warp," of science fiction fame, that the author repeatedly suggests may be responsible for some of the seemingly mysterious incidents he recounts. But I am more inclined to attribute the discrepancy to the "accuracy warp" that seems to plague the Berlitz book.

The same article in the *National Enquirer* that told of the mysterious blackout of Met-Sats over the Triangle also included a report of a general aviation pilot who claimed that strange things had happened to him while flying from Nassau to Palm Beach, Florida. Berlitz includes this account with no more detail than appeared in the original newspaper account. The incident had allegedly occurred in February, 1968, no date given. According to the pilot: "The weather was clear and I filed an original flight plan for an altitude of 8,000 feet but the control tower recommended that I change to 6,000 feet because *two other planes* flying at 8,000 feet had disappeared without a trace the same day. About 40 miles north of Nassau, my radio went dead, my compass started spinning, and all of my navigation aids stopped working, including my very high frequency direction finder—and that's unheard of! When I finally came out of the clouds I was *150 miles northeast of Nassau* . . . and I had been heading *northwest!*"

It is difficult for me to believe that control tower operators would be so naive as to think that this pilot might be spared the horrible fate that allegedly had befallen two other aircraft simply by flying 2,000 feet lower, and thus closer, to whatever mysterious force lurks beneath the waters of the Triangle. When I checked the NTSB records for the entire month of February, 1968, I discovered that ***not a single aircraft had disappeared mysteriously in the Bermuda Triangle during the entire month!*** Apparently the two aircraft reappeared as mysteriously as they had disappeared. And as for the pilot's claim that his "very high frequency direction finder" stopped working, there is no such instrument built for general aviation aircraft, or for airliners; both use a *low-frequency* direction finder.

Berlitz finds it difficult to flesh out even a thin book with enough mysterious disappearances in the Bermuda Triangle so he turns to Unidentified Flying Object (UFO) tales by noting "there seems to have been a surprising concentration of such [UFO] reports within the area of the Bermuda Triangle." This claim is indeed "surprising" to those, like this reviewer, who have spent many years in investigating the UFO issue. This Berlitz claim is as well-based as his statement that an "inordinate number" of aircraft disappear in the Triangle during the month of December.

One seemingly mysterious UFO incident that Berlitz describes occurred on

September 14, 1972, near West Palm Beach, Florida. Having personally investigated this incident I can vouch for Berlitz's statement that the U.S. Air Force dispatched two interceptor aircraft from nearby Homestead AF Base, Florida, to investigate the mysterious light in the Eastern sky reported by a control tower operator at the West Palm Beach airport. But Berlitz fails to tell his readers what the USAF pilots concluded after going up to investigate: that the mysterious light was the planet Venus, which often produces UFO reports. Nor does Berlitz mention that West Palm Beach sheriff William Heidtman also went up to investigate in a helicopter. Heidtman's conclusion: the UFO was the planet Venus.

Even the tragic suicide of Dr. James E. McDonald, then the spiritual leader of the UFO movement, in June, 1971, near Tucson, Arizona, occurred under "mysterious circumstances" as Berlitz recounts the incident briefly. There is no mystery, other than that associated with any suicide. A few weeks before McDonald's death, he had made an unsuccessful suicide attempt by putting a bullet into his own head. That attempt had partially blinded him. While recovering from the incident, McDonald slipped out of the hospital, hailed a taxi, returned home to get his gun, then had the taxi driver take him outside of town where he killed himself.

Although I have never met Berlitz personally, having seen him on television talk-shows and having read his two books, I suspect he is humorless. How else can one explain his account of an Eastern Air Lines charter flight, reportedly enroute from Nova Scotia to an undisclosed destination in the Caribbean, in March, 1975. According to Berlitz, as the aircraft was flying along the Florida coast, the pilot announced to the passengers: "Passengers sitting on the left side of the plane can now see where the infamous Bermuda Triangle begins. Thank God, we are not flying through it."

If such an incident actually occurred, it should be obvious that the pilot was joking because there is no practical way that the airliner could possibly reach its destination in the Caribbean without flying over/through the Bermuda Triangle!

In summary, *Without a Trace* is simply a re-hash of the earlier Berlitz book, supplemented with "Gee Whiz" type incidents drawn from such questionable sources as the sensationalist tabloid newspapers. Were the book well written, or even well organized, it might be worth its $7.95 price as science fiction, but it is neither. It is what is known in the journalistic vernacular as a "scissors and paste job." But in view of the millions who bought the first Berlitz book, undoubtedly there will be many $7.95's that will be lost "without a trace" of useful return on the investment. •

The Road to Total Freedom: A Sociological Analysis of Scientology. By Roy Wallis. Columbia University Press, New York, 1977. 296 pp., $12.00.

Reviewed by Richard de Mille

Readers of the first issue of this journal were edified by Roy Wallis's informative, well-considered article on Dianetics, the do-it-your-self-improvement movement

launched in 1950 by adventure-fantasy writer L. Ron Hubbard. The present book is to that article as a tiger is to a terrier: bigger, more colorful, more exciting. It falls within the strictest scope of *The Zetetic* because it is a scientific study of an organization that has made empirical paranormal claims.

In 1976, for example, several Scientologists testified (*Advance!* 38) to their achievements as supercompetent spirits called "Operating Thetans" (OTs). One OT foresaw an accident paranormally; another detected a mugging while exteriorized from his body; a third welded some loose electrical wires together by pure intention. *Advance!* 33 told us how a couple of OTs put out a fire a mile away when firemen could not. Wallis does not take up specific paranormal claims, but he examines the social framework in which such tales of power are told by aspirants enrolled to climb the OT ladder at $300 per hour for 100 hours or more (recent figures from the Church of Scientology, Tampa, Florida).

Though the Dianetics movement lasted only two years, it kicked off a quarter-century development from individualistic cult to authoritarian sect, from rags to riches, from obscurity to fame, from a sad 1953 remnant to millions of ebullient followers claimed around the world. Not without some personal risk has Wallis cracked the whip of sociomethod and brandished the chair of tact to tame the gnostic beast for our leisurely contemplation. Aggressive litigation by the Church of Scientology (C of S) has drawn financial blood from several less prudent critics. To escape the wrath of the sect dissected, Wallis conducted lengthy and arduous negotiations with the hierarchy, to whom he submitted his manuscript for comment. In consequence, certain easily distinguished paragraphs present the C of S position, often directly and immediately contradicting Wallis's unflattering findings. The entire study is denounced and dismissed in an indignant five-page index commissioned by the C of S and written by a dedicated Scientologist, formerly a member of sociology faculties at the Universities of Illinois and California at Santa Barbara. It is part of the wry charm of this book that Scientologist and scientist alike will be satisfied with the outcome, each drawing his own kind of conclusions from the text.

Wallis's chapters treat: his research plan, a theoretical typology of cult and sect, Dianetics as a cult, the period of crisis and transition to secthood, theory and practice of Scientology, social organization and control within the sect, the career of the Scientologist, relations (largely conflict) with state and society, and the sect's maintenance of its deviant belief system. Parallels are drawn with the history of Christian Science and the exoteric/esoteric doctrinal manipulations of the Communist movement. Scientology is said to have succeeded through a combination of charismatic leadership, remarkable administrative ability, bureaucratic organization, authoritarian control, mystification of followers, vivid fantastic theodicy, pragmatic promises, scientistic pretensions, technological trappings, religious and reformist camouflage, public relations, propaganda, occasional dirty tricks, systematic manipulation of adherents, relentless pursuit of recruits, plausible rationalization of failures, and the loyalty of numerous satisfied customers. Its appeal has been to careerists, truth seekers, and personal or social problem solvers from the white, affluent middle class.

Unlike some earlier critics, Wallis does not weaken the impact of his report by

going beyond his wide-ranging, detailed observations or by overstating his convincing case. He is eminently fair. When governments unjustly suppress the C of S, Wallis accuses them; when medical pots call Scientologist kettles black, Wallis chides them. His own trials at the hands of the faithful he relates with piquant restraint. Being intimately familiar with the early history and evolving theory of Scientology, I found errors neither of fact nor of interpretation, which suggest a degree of accuracy unusual in an extensive work done in part at a considerable historical distance.

Scientology is a dynamic deviant social movement that is happening right now. Wallis's theoretical discussions and historical comparisons illuminate this competent empirical portrait of Scientology without in the least burdening the reader. I shall, therefore, be quite surprised if *The Road to Total Freedom* is not widely adopted for social-science and religious-studies instruction. Reading the text with pleasure and easily comprehending it, the undergraduate or graduate student will painlessly absorb sociological theory through a fascinating case study of what the *Britannica* yearbook called "the largest of the new religions."

(Formerly at Scotland's University of Stirling, Professor Wallis currently heads the Department of Social Studies, The Queen's University of Belfast, Belfast BT7 1NN, Northern Ireland. *The Road to Total Freedom* was first published by Heinemann Educational Books Ltd, London, 1976; except for title page and verso the editions are identical.) •

Psychic Surgery. By Tom Valentine. Pocket Books, New York, 1975. 221 pp., paperback, $1.50

Healing: A Doctor in Search of a Miracle. By William A. Nolen, M.D. Fawcett Publications, Inc., Greenwich, Conn., 1975. 272 pp., paperback, $1.75.

Occult Medicine Can Save Your Life. By C. Norman Shealy, M.D. Bantam Books, New York, 1977. 243 pp., paperback, $1.95.

Laetrile Case Histories: The Richardson Cancer Clinic Experience. By John A. Richardson, M.D. and Patricia Griffin, R.N. Bantam Books, New York, 1977. 265 pp., paperback, $2.50.

Reviewed by Laurent A. Beauregard

The recent publication of the above books in paperback testifies to the fact that the current revival of interest in the paranormal has fully invaded the field of medicine. In the wake of growing dissatisfaction with orthodox medical care, some people have turned to "occult medicine" and to alternative therapies for the relief of their ills. Thus thousands of Americans have traveled to the Philippines within

the last decade to be treated by the so-called "psychic surgeons." Thousands more have sought help at the hands of home-grown spiritual healers including Oral Roberts, Kathryn Kuhlman, and Olga Worrall. Others, by now equally numerous, are looking at a new drug called Laetrile for the treatment of cancer. Such facts raise certain fundamental questions. Are *all* such people *irrational* in believing suffering and (even) in curing disease (dis-ease)? Is *all* of "alternative medicine" simply useless quackery? These are the central questions which lie at the basis of the issues discussed in the four books under review.

It turns out—perhaps surprisingly—that the answer is a resounding NO. Seeking unorthodox help need not always be unreasonable. Even William Nolen, the American surgeon who spent eighteen months thoroughly researching the claims of psychic surgery and spiritual healing, concurs that such alternative techniques can be helpful and effective in treating certain psychosomatically or neurotically based functional disorders. Dr. Nolen, after an objective search for only a single "miracle," reluctantly concludes, however, that there are no *genuine* healing miracles. He insists that there is nothing paranormal or occult about such healing. For him, the phenomenon of suggestibility and the placebo effect are neither more nor less "miraculous" than the very "miracle of life" itself, as exhibited, for example, in pregnancy and childbirth.

Of the four books under review, the latter three are by medical doctors, each with a solid reputation in his field. Two of these works are devoted to advocacy of unorthodox ideas and therapies: Dr. Norman Shealy firmly believes in paranormal occurrences in general, while Dr. John Richardson confines his waywardness to the treatment of cancer in particular. Only Dr. Nolen's book falls into the genre of debunking works. The remaining book—the first on our list—which deals entirely with psychic surgery, is written by a journalist, Tom Valentine. His articles on occult subjects have appeared in such publications as *The Tattler*, a sensationalist tabloid akin to the *National Enquirer*. Let us begin with Valentine's book.

The book begins with an immediate vivid portrayal of psychic surgery. A peculiar operation is performed upon the human body without anesthesia and under unsanitary conditions: the practitioner places both his hands on a certain part of the body, say the abdomen, of the patient, and starts kneading the flesh like dough for all he's worth. Within minutes, to all appearances, the body opens up as if an incision had been made, and there is "blood and guts" for all, including the patient, to observe. A mass of tissue is then "removed from" the abdomen and is immediately dubbed "an evil tumor" by the healer or his assistant. The whole procedure has been filmed many times. And those who have seen the photographs and movies of such operations agree that they look extremely convincing. This is what Valentine's book is about.

Valentine feigns a kind of "objectivity" about the phenomenon of psychic surgery that goes beyond what orthodox medicine is able or willing to conceive. While admitting that some of the "healings" performed in the Philippines are clearly fraudulent, he insists that there is something real about the phenomenon and that the "genuine" cases of psychic surgery are truly paranormal. He places himself squarely on the side of witnesses who say, "Why dwell on fakery, if indeed there has been fakery? One white crow is all that's needed to prove they're not all

black." And Valentine is convinced that he has personally seen a number of white crows. Like the sober believer among UFO researchers, and like the hardheaded psychical researchers of yesteryear, he thinks that the "signal-to-noise ratio" in the twilight zone must be nonvanishing. The spiritualist seances and the UFO reports were admittedly laden with mistaken observation and with fraud, but there was supposed to be a minority of cases in which the observations were sufficiently clear-cut and in which it was judged that all possibility of fraud had been eliminated. These cases would constitute the genuine paranormal residue, the "white crows," the "damned facts."

In the case of medicine, however, this is exactly the point at which Nolen's investigations bear heavily on the issue at hand. Viewing the operations of the Filipino psychic surgeons at close range with a surgeon's eye, it became clear to him that the masses of bloody tissue allegedly removed from patients bodies were nothing more than palmed animal parts or cotton wads soaked with red dye. Nolen saw nothing but fakery in the Philippines. He even had *himself* operated upon by a healer whose psychic powers were believed to be so great that he *never* had to resort to trickery. Well, out came a phoney malignant tumor; the "incision" had been totally faked; and the entire operation was based upon sleight of hand. And *this* was a damned fact!

Believers in the paranormal are often inclined to dwell upon the "multidimensional manifestations of the human psyche" in such a way as to mystify the unknown. They say that science cannot fathom the mysterious workings of sundry twilight zones populated by auras, spirits, vital energies, psi forces, and discarnate entities of all kinds. Mental imaginings become reified into quasi-physical existence. Occam's Razor is thrown quite overboard, and reason goes down the drain.

Nonbelievers, on the other hand, find themselves more impressed with the multidimensional manifestations of human deceit. People lie. They lie to one another. They lie to themselves. There is nothing paranormal about this pervasive fact. But the phenomenon of deceit is much more complex than one might at first imagine. In Donald Menzel's latest UFO book a taxonomy of lies is presented. Lies can be benign or defensive, avaricious or compulsive without being blatantly malicious. Much of the phenomenon of *self-deceit* probably belongs to the benign end of the spectrum. Nolen suggests that the psychic surgeons of the Philippines are masters of self-deceit. They can "really believe" that they are guided by a spirit as they perform their phoney operations. Some go into a trance while performing. But the art of guilt-free deception and trickery is surely not uncommon. Thus to ask whether a spiritual healer is "really sincere" will get us nowhere. It is not surprising that Nolen was unable to find that Kathryn Kuhlman was dishonest or insincere concerning what she believed she was all about. He was, however, able to ascertain that she was wrong in her belief that patients could be cured of organic diseases through her ministry.

Or was she wrong in this belief after all? This question brings us to the heart of the subject matter of C. Norman Shealy's book. For the blurb on the back cover of this book says: "A renowned neurosurgeon examines the amazing success of occult medicine: *Cancer cured by the 'laying-on-of-hands'* . . . " (Of course back-

cover-blurbs are sometimes misleading. Nolen's debunking book was advertised by its publisher as revealing *"The Startling Truth About Faith Healing and Psychic Surgery."* One really wonders how many readers were honestly *startled* by Nolen's findings.) But in fact Shealy *examines* nothing of the sort in his book. He does, however, *mention in passing* the story of the Houston police captain who "stood in the front of a huge jam-packed Los Angeles auditorium literally to be knocked to the floor by the gentlest touch of a woman healer's hands—and be cured of an 'incurable cancer'." (See p. 20.) Kathryn Kuhlman is alleged to have performed this miracle. Dr. Shealy also mentions in passing a number of other stories involving miraculous cures of organic diseases allegedly effected by Miss Kuhlman, by Olga Worrall, and by others whom he considers to be "legitimate." These stories occur in the first two chapters. And, in those chapters, the reader would swear that Shealy *really believes* the stories.

Dr. Shealy, however, makes it clear that he is predisposed to take seriously paranormal phenomena *in general.* As regards clairvoyance, telepathy, and psychokinesis, he asserts: "There is just too much evidence—as far as I'm concerned—to be disregarded. I sincerely believe these things *do* happen." His position here is very much like that of Tom Valentine. On the question of fraud and deceit in alleged ESP phenomena, Shealy has this to say: "One must look at the psychics and faith healers in perspective. For one thing, many are so committed to their work that the natural unevenness of all creative powers is disturbing to them and they just try too hard sometimes to prove their psychic ability and so find themselves either verging on the fraudulent or actively indulging in it." Randi, the magician who has debunked Uri Geller, formulates Shealy's point in *this* way: "Cheating is a compulsion with the psychic, something that he feels he must do if given the opportunity. But he is to be forgiven for this, since he cannot resist the feeling." Nevertheless, Shealy, like Valentine, feels "that there is a reality to these strange powers, that the psi phenomena *are* real and factual even though our understanding of them is . . . inadequate. . . . " He believes that "love or the love-energy is the power in medicine that heals." (But this is not to be confused with Wilhelm Reich's "orgone energy," though the "psi-org" of Martin Gardner's amusing character, Dr. Matrix, will readily come to mind.) Shealy apparently believes that the placebo effect and the bedside manner belong squarely within the domain of the paranormal. Perhaps this is why he *seems* to accept the notion that Kathryn Kuhlman can actually *cure* an "incurable cancer" by sheer love-energy.

It turns out that Shealy believes nothing of the kind. For though he says things like: "These (spiritual) healings cover the whole range of medical practice from the minor wart to deadly heart attacks and cancer," he qualifies such statements significantly when he speaks of faith healing as *only sometimes* offering *merely* "an added dimension of help in any medical situation where a (conventional) doctor monitors the condition, ready to intervene if the faith healing should fail." (See p. 40.) There is, of course, a very sound reason for this important qualification. Both Dr. Nolen and Dr. Shealy point out that there are certain *organic diseases* such as cancer, diabetes, gallstones, and so on, which are neither psychosomatically based nor "self-limited" (healed by the body itself with no external help). And these diseases are not merely due to some change in the way the body,

or some organ of the body, *functions.* Instead, they are caused by certain "structural defects" of certain body parts. When a person contracts a disease of this kind, the doctors are in agreement as to what should be done. Nolen says: "These are the diseases that healers, even the most charismatic, cannot cure. . . . When healers treat serious organic diseases they are responsible for untold anguish and unhappiness . . . because they keep patients away from possibly effective and lifesaving help. The healers become killers." Shealy says: *"Your doctor is there to protect you: follow his or her orders and treatment—regardless of what else you do or what other help you seek in addition.* . . . FIRST SEEK COMPETENT MEDICAL CARE for any ailment. Then, FOLLOW YOUR MEDICAL ADVICE—it's worth your life. Other help (such as prayer, faith healing, the occult) is very valuable—but only when there is no risk." (See p. 168.) *Res ipsa loquitur.* This speaks for itself. Shealy does not pass the acid test of the *true* believer. Prayer, faith healing, and occult medicine are all O.K.—*provided that there is no risk.* Despite the curious title of Shealy's book, it turns out, on Shealy's own account, that it is *conventional medicine* that *can* "save your life."

Dr. Shealy, then, seems to share Dr. Nolen's conviction that with such serious *organic* diseases as cancer it is literally a matter of life or death to seek *conventional* medical help *first.* Of course, if one wishes to "seek that extra something which faith healers have to offer" *in addition,* then that is fine, so long as one follows very closely the medical advice of orthodox physicians. According to Shealy, those faith healers are outright *quacks* who advise patients to ignore this advice—especially in cases of cancer. And those cancer patients who knowingly ignore their physician's advice for the treatment of cancer, and who would elect, instead to undergo *any* kind of "alternative therapy" *for cancer,* would have to be judged to be highly irrational. If you've got cancer, then forget the Philippines, forget Lourdes, and stay away from Kathryn Kuhlman, but do go the way of surgery, radiation treatment, or chemotherapy, or whatever combination of these your doctor thinks will maximize your chances for recovery. Of course, if the cancer is not detected "in time," then it's just too bad: you can only pray, and hope for the best.

Now it is *exactly* this kind of thinking that Dr. Richardson's book, *Laetrile Case Histories,* purports to refute. What is interesting is that the kind of alternative therapy for cancer that Richardson advocates cannot be categorized as either occult medicine or faith healing *as such.* The difference is this: Shealy argues in favor of occult medicine *as a supplement to* the orthodox therapies, whereas Richardson's case for Laetrile therapy in the treatment of cancer is presented *as a substitute for* the standard, the "acceptable," ways of dealing with cancer today. Richardson is opposed to surgery, to radiation treatments, to chemotherapy, and to "the medical establishment" at large. Little wonder that he has been charged many times with quackery in the field of cancer.

Let us examine briefly the case that is made for Laetrile *as a substitute for* the standard ways of dealing with cancer. This is important because if Laetrile were to be used merely as a supplement to, say, chemotherapy, it would be very hard to understand what all the controversy over Laetrile is about, for this "drug" is really

nothing more than an extract from apricot pits, sometimes called amygdalin or vitamin B_{17}. Indeed Richardson views it as a nutritional supplement rather than as a drug. But whether we call Laetrile a drug or a vitamin is of little consequence. What matters is whether the substance is *toxic,* whether it has any serious *side-effects,* and of course, whether it is *effective* in the prevention and the control of human cancer.

One of the most frightening things about cancer is that, despite years of research, nobody yet knows really what it is. We are more or less ignorant of the material cause of cancer. Much more is known about the symptoms—the effects—of cancer. These symptoms are, broadly speaking, of two kinds: (1) the malignant tumor (growth, lesion, lump or bump); and (2) what the doctors call "cachexia" (loss of weight, appetite, and strength, and a general "wasting away"). Many cancer patients suffer much more from cachexia than from the tumor itself. In fact, many doctors believe that the majority of those patients who "die from cancer" die from a wasting away of the body and not from the tumor. (Of course it sometimes happens that the tumor itself is life-threatening, but such cases are supposed to be in the minority.) The purpose of Laetrile therapy seems to be to check or to prevent cachexia and to improve the overall general health of the patient so that the body's natural capacities to fight off *the cancer* (that is, the systemic condition that constitutes cancer, whatever that might be) will have a reasonable chance to do just that. Reduction of the size of the tumor is regarded as being only of secondary importance. Thus a cancer is not to be identified with a malignant tumor; rather, a cancer is some kind bodily deficiency, something that goes wrong with the body's natural immunities to the spread of malignant growths. Many doctors subscribe to the "deficiency theory of cancer"—at least as a useful guide in trying to understand more fully the causes of this dreaded disease.

Richardson subscribes fully to this conception of cancer, and he goes on to argue that conventional treatment—which includes surgery, radiation, and chemotherapy—actually *harms* the cancer patient. It is claimed that surgery can do good only to the extent that the tumor being cut into is *non*malignant. The reason that is given is "that any cutting into the tumor—even for a biopsy—usually results in spreading the cancer to other parts of the body." Radiation therapy is also condemned on similar grounds, and it is noted that radioactivity in intense doses is a known cancer-*inducer*. It succeeds in reducing the physical size of a tumor by killing off the benign portion rather than the malignancy itself. Also, the patient's overall sense of well-being—the cachexia component—may actually worsen as a result of radiation treatment. The *known* adverse side-effects of both radiation and chemotherapy are notorious. Indeed, chemotherapy is described as the prescription of "strong poisons" which are designed to kill cancer cells. They are supposed to kill these cells *before* they kill the patient. However, what these chemicals actually do is to destroy those cells *which divide rapidly whether or not they are malignant.* The consequent effects of chemotherapy include loss of hair, loss of appetite, blood poisoning, sterility, diarrhea, and a host of other ills. It is stated that the patient's agony under chemotherapy is so great that the patient sometimes prefers to die from his cancer rather than continue the torture of the

treatment. It is also claimed that almost all of the chemotherapeutic drugs actually destroy the patient's "immunological defense mechanism." This is perhaps the most serious charge of all in those cases where the cancer is still at a sufficiently early stage that the natural resistance of the body may be the most important medical weapon against the disease.

The Laetrile advocate, then, asserts that the standard methods of treating cancer are—each of them—worse than the disease that they are supposed to help cure, or at least control. If this assertion is true, then the case for some kind of alternative treatment for cancer in the sense of a *substitute* rather than merely a *supplement* is made. The alternative, the substitute, which is recommended is something called "metabolic therapy" which consists essentially of (1) going on a strict vegetarian diet; (2) taking all sorts of vitamins and minerals; and (3) getting injections of Laetrile and taking Laetrile pills. All of this is, of course, prescribed by the doctor to suit an individual patient's particular condition. The ninety case histories that are presented in Richardson's book seem to this reviewer to indicate that further research on the efficacy (or nonefficacy) of metabolic therapy and Laetrile treatments is definitely warranted. Even if Laetrile is placebo-like, even if it constitutes nothing more than a form of faith healing (a view that Richardson strongly opposes), it would still be worth looking into, as long as *some* patients are helped in *some* way by it. For it is not clear that *all* cases of cancer can be classified as "organic" as opposed to "functional," or that there is *no* psychosomatic component to this disease.

When we are dealing with a horrible disease about which so little is known, it seems clear that we ought to be pragmatic enough to try *anything* that has promise *and* that can't do much harm. •

The Monsters of Loch Ness. By Roy Mackal. Swallow Press, Chicago, 1976. $12.50.

Reviewed by Bernard Heuvelmans
(Translation by Ron Westrum)

There was no special need in 1976 for a new book on the unknown animals[1] of Loch Ness, unless such a book could throw new light on, or finally resolve, this zoological enigma. Since the 1930s, when the "monster" first erupted into public consciousness, there have been at least ten books (some of them excellent), a half-dozen pamphlets of importance, and a very large number of articles, of which many have been published in scientific periodicals like *Nature, La Recherche, New Scientist,* and *Limnology and Oceanography.* This qualifies as an extensive litera-

1. The accumulation of all kinds of evidence—*instrumental* (photographs, films, echo-sounder recordings), *testimonial* (nearly 3,000 reported sightings), and *circumstantial* (the coherence of the information in the light of current zoological knowledge)—is essentially sufficient for one to affirm that a small population of unknown animals of large size exists in the Loch. The zoological nature of these animals is less clear although, as we shall see, certain speculations can be made.

ture by comparison with the mere five books on the much larger and more difficult problems of the Great Sea-Serpent.

To reflect accurately the evolution of our knowledge and of scientific opinion in regard to the Loch Ness problem it is necessary to give a little bit of history. Actually even the educated public has little idea of the enormous volume of scientific work which, in the last forty years, has gone into attempts to resolve the Loch Ness enigma. And yet, as we shall see, we now have a person who presents himself as a specialist in this problem (in fact the most qualified specialist), but who is unaware, or acts as if he were unaware, of this previous work.

In 1892 a Dutch zoologist of the first order, Professor Antoon C. Oudemans, published his classic monograph on *The Great Sea-Serpent.* Inspired by Ernst Chladni's method in assembling cases to prove the reality of meteorites, Oudemans brought together all the reports of observations of large serpentiform marine animals that he could find, 187 in all. He sorted and analyzed these cases and from those which seemed authentic to him and not the result of misperceptions he synthesized a kind of Identi-kit picture of the creature. The animal, he thought, was an unknown form of Pinniped (seal) with a long neck and a long tail to which he gave the scientific name *Megophias megophias.*

In a book published in 1930, *The Case for the Sea-Serpent,* lieutenant-commander Rupert T. Gould, then retired from the Royal Navy and well-known for his excellent histories of the marine chronometer and the typewriter, attacked the problem from a totally different angle. He based his study not so much on the *quantity* of reports as on their *quality.* He used about two dozen cases which were retained after having passed through the filter of a rigorous critique. This small sample nonetheless led him to the opinion that " . . . the evidence available at present . . . goes all the way to demonstrate the real existence of more than one type of creature not yet scientifically described," (p. 277). Gould was inclined to believe in the existence of three animals: a large long-necked seal, a gigantic turtle-like creature, and in the majority of cases a creature even larger, a descendant, he believed, of the plesiosaurs of the Mesozoic period, "which had evolved along similar lines."

When the enigmatic beings of the Scottish Loch began to be discussed in the press in 1933, journalists immediately began to talk along the lines of the "Dragon of the Loch," and retained its fabulous ambiance by renaming it "the monster of Loch Ness." On the other hand, two authors of books of the Great Sea-Serpent offered more prosaic opinions on the creature's identity. In a little pamphlet entitled *The Loch Ness Animal,* Oudemans stated in May, 1934 that from all indications what was involved was a stray individual of the species *Megophias megophias* caught in the Loch. The next month Rupert Gould published a book entitled *The Loch Ness Monster and Others* in which forty-two reported observations, carefully selected for their authenticity, were analyzed with Gould's usual rigor. In regard to the identity of the often discussed animal—which Gould believed to be only a single individual—he too believed it to be a marine visitor, the only sea serpent that had penetrated fresh water. Nonetheless, he was not inclined to push any of the three hypotheses proposed in his previous book, except perhaps for the sufficiently vague one that the creature might have evolved "along similar lines" to a

plesiosaur. At this time he felt the creature was an unknown species of amphibian, a kind of giant newt, but of a size even greater than the largest amphibians known to the paleontologist, the giant labyrinthodons of the early Mesozoic. Gould has not given us the reasons for this choice, which seems to have been inspired solely by intuition. Happily an eminent English zoologist, Dr. Malcolm Burr, had justified this choice only a little time before in a remarkable article *Nineteenth Century*.

In spite of the solidity of the arguments favorable to Oudemans's hypothesis and the ingenuity of that of Gould, ably supported by Burr, the plesiosaur has remained the candidate of choice for Anglo-Saxon researchers favorable to the creature's existence. Interestingly enough, this has also been, and probably will be for many years, the case for those who interest themselves in the Great Sea-Serpent.

Constance Whyte implicitly places herself in favor of this now-classic hypothesis in her delightful work *More Than a Legend* (1957), which sets the entire matter in its proper geological, historical, and ethnographic context. Although she never explicitly pronounces on the zoological nature of the creatures of the Loch, all her comparisons come from the world of reptiles. She writes: "Should the Monster turn out eventually to be a close relative of some extinct reptile—a Loch-nessaurus in fact—any credit for being first to give expression to the idea must go to certain adventurous amateurs," (p. 183).

Mrs. Whyte had lived for more than twenty years in the Highlands; her husband was also manager of the Caledonian Canal, of which Loch Ness is a part. She could therefore cite, besides sixty-some accounts between 1933 and 1954, twenty-five firsthand reports from people for whose sincerity she could personally answer. One of the great merits of her book is to have shown that "Nessie," as it has become the fashion to refer to "the monster," was not to be considered as a unique animal but rather a small population belonging to a definite species. Furthermore she emphasizes the important observation that creatures of apparently similar appearance had been spotted not only in other lochs of Scotland and loughs of Ireland, but also in some lakes and rivers of Iceland and even in some lakes of the New World, like Lake Okonagao in British Columbia. Perhaps even the legendary *lau* of Lake Victoria-Nyanza in East Africa could belong to the same family.

A decisive new step was taken on April 23, 1960, when the British aeronautical engineer Tim K. Dinsdale filmed one of the animals of Loch Ness swimming at a considerable distance from him. Although this was in fact the sixth film of this kind to be made, it had the singular advantage of being studied in 1966 by specialists of the Joint Air Reconnaissance Centre (United Kingdom). Their report demonstrated that what had been filmed was not a boat, as some suggested, but "an animate object," "not less than 6 feet wide and 5 feet high," a size which eliminates all known animals of the region. This capital piece of evidence constitutes one of the soundest concrete proofs which make up the "Nessie" file. Dinsdale's book, *The Loch Ness Monster* (1961), while full of the enthusiasm and flair with which Dinsdale infected his whole expedition, suffers from his lack of zoological training. For this reason it does not much advance our knowledge of the problem, except through the contribution of several previously unpublished reports of sightings. Needless to say, Dinsdale espouses the leftover plesiosaur

theory.

When Dinsdale's book was published, however, it had already been twenty-seven years since a qualified zoologist, and not one of the least important, had begun to take an interest in the "monster." Dr. Maurice Burton, of the British Museum of Natural History, was one of the rare scientists in the world to have the courage to discuss the creature in his books and his articles in the *Illustrated London News*, with all the competence and authority of an experienced professional. It is true that his opinion on the nature of the unknown animals of the Loch often varied due to new reflections, some recent observation or hoax, his latest reading, and, one must say, his changes in mood. The controversies of 1960 which found him locked in battle with colleagues or other experts caused him to change his point of view, as did the appearance of Tim Dinsdale's book in 1961, which was published while Burton was correcting the proofs for his own book. In 1953 he offered the hypothesis that the creatures were giant eels, which occasionally would swim on their sides along the surface (which would explain the up-and-down undulations often described). After Mrs. Whyte's book appeared, and due to her influence, he seemed to tilt for a time in the direction of the plesiosaur hypothesis. But in Burton's book *The Elusive Monster* (1961) he concluded that the observations made at Loch Ness were caused by two principal types of events: (1) pressure toward the surface from gas generated by the decomposition of decaying vegetable mats, and (2) the presence of "a large unknown animal," that had every chance of being a mammal and which appeared as "a long-necked otter-like animal."

Even at this time Dr. Burton was not the sole zoologist to take an active interest in the problem and to seek the solution in a scientifically rigorous frame of mind. In the spring of 1960 one of his colleagues at the British Museum, Dr. Denys W. Tucker, an ichthyologist, had given some university lectures entitled "Lock Ness: the Case for Investigation," in which he had warmly defended the plesiosaur hypothesis. Following his lectures some thirty graduates and undergraduates of Oxford and Cambridge, led by Arnold Richard (Oxford) and Peter F. Baker (Cambridge), got together a month-long summer investigation at Loch Ness. The investigation included setting up eight fixed observation posts, the use of boats equipped with echo-sounders and a tentative study of the plankton contents of the waters of the lake and the density of population of different species of fish. A very useful result of the expedition was to establish that Loch Ness, although classified as *oligotrophic* (that is, "little nourishing"), was perfectly capable of supporting a small indigenous population of animals of large size.[2]

Every summer since 1961 the Loch has submitted to an organized surveillance over a fair portion of its area. This scrutiny is the work of the Loch Ness Phenomena Investigation Bureau, which was started through the initiative of David James, a war hero (World War II) and Member of Parliament. The Bureau has been fortunate in the aid of well-known naturalists of the quality of Peter Scott

2. The number of individuals of this population, as a function of size, has been calculated theoretically by two pairs of Canadian researchers specializing in oceanography and limnology: Sheldon and Kerr (1972) and Scheider and Wallis (1973).

and Richard Fitter. The surveillance has resulted in many new reports of observations as well as some ten filmed sequences, mostly unconvincing. Concurrently, several teams of researchers, generally from universities, engaged in echo-sounding operations of prime importance. In 1961 I myself plunged into the depths of the Loch for the first time to study the conditions of visibility under water. I found that the opacity of the waters, charged with peat in suspension, *excluded all possibility* of exploration by means of diving gear, bathyscapes or small submarines. This fact has not prevented the subsequent use of many craft of the latter type, whose appearance on the scene—at great expense—could only be the result of the desire for publicity.

In 1963 a new and original hypothesis on the zoological identity of the creatures was put foward by a self-trained naturalist and author of articles on fishing, Frederick W. Holiday. The "monster," according to him, is very likely to be a mollusc, "probably a form of super sea-slug." Holiday has continued to develop this hypothesis, even going so far as to specify, in his book *The Great Orm of Loch Ness* (1968), that the species in question was related to the genus *Tullimonstrum*, an extinct segmented invertebrate of the Carboniferous period. Recently described by Dr. E. S. Richardson as the "only known representative of a hitherto extinct phylum," the known specimens of this worm-like creature do not exceed fourteen inches.

In the meantime my own book *Le Grand Serpent-de-Mer* (1965) had appeared, the fruit of six years of uninterrupted work. Following the path broken by Oudemans, I nonetheless felt obliged to attack the problem of the sea serpent's identity in a different way than his. More objective and rigorous methods of sorting and analysis of the information furnished by the 548 cases of observation which I had been able to collect made me decide that rather than the single *Megophias* of Oudemans, there were at least some *seven* identifiable types of unidentified, elongate marine animals. According to the composite portraits I was able to construct of these types, it would seem that the majority are mammals: two of them seem to be similar to the pinnipeds and three similar to the archeoceti, cetaceans with still flexible necks of the Eocene. One of these three, however, could well be a Sirenian related to Stellar's sea-cow. A sixth type of "sea serpent" seems to be reptilian (either a thalattosuchian, a sea-adapted crocodile or a surviving mosasaur, a huge aquatic reptile of the Mesozoic, allied to the present monitor lizards). A seventh type may be an eel or a frilled shark or some other sort of elongate fish. What is important for our purposes here is that as far as I can determine, only one of these seven types, which I refer to as "long-necked," can move for a short while on land, a phenomenon that has been observed in at least twenty cases around Loch Ness. The "long-necked" also answers very closely in other ways to the description of the Loch Ness animals. As it resembles, by its external appearance and its movements, a sea lion with a very long neck (Oudemans's *Megophias* without the long tail), I proposed the scientific name *Megalotaria Longicollis* for it.

Such was the state of affairs in 1965 when the author of the book under review, whose dust jacket announces it as "the first complete scientific study," appeared on the scene. A young American biochemist, Dr. Roy Mackal was then

an assistant professor at the University of Chicago.[3] Meeting David James in the course of a summer excursion in Scotland, Mackal quickly impressed him with his degrees, his professional qualities (both of biologist and technician), at the same time raising the possibility of financial assistance from Uncle Sam. Perhaps for these reasons Mackal had no difficulty in becoming a member of the Board of Directors of the Loch Ness Phenomena Investigation Bureau. Mackal soon came to play an important role in the activities of the Bureau, not only in the gathering of funds from many American firms and clubs, but also in increasing the number of press conferences and proposing many ways of perfecting the techniques of investigation. Some of these last proved very useful (for example, regarding the use of ASDIC), but others could be somewhat utopian, such as the use of submarines in the murkey waters or crossbows with retreivable bolts to provide samples on which biopsies could be performed. It requires a considerable degree of optimism to think of putting a crossbow bolt into a creature so hard even to photograph!

But what idea had Mackal formed about the identity of the targets for these bolts? Actually, he has changed his mind several times on the subject. As David James noted in his *Annual Report* (of the LNPIB) for 1966 the biochemist had stated, in the course of a press conference on September 19 of that year, that "although it was premature to be dogmatic, the balance of probability lay in the direction of an invertebrate of the Gastropod class, possibly somewhat between the giant squid and the slug in appearance." When he developed this idea (borrowed from F. W. Holiday), in the course of a seminar in Pittsburgh on April 29, 1967, a world authority on invertebrates, Professor Ralph Buchsbaum, told him (Mackal 1976, p. 22) that "the invertebrate idea was not viable and raised a number of valid objections."[4]

He still admits in his book having "a very slight bias toward one kind of animals—mollusks" (*ibid.*) and feels that "invertebrates as explanation of the mystery is not entirely improbable" (p. 141). But a major change in attitude seems to have taken place with the publication of the English translation of my book (Heuvlemans, 1968). An article in the *University of Chicago Magazine* (a publication of Mackal's own institution) by the editor Conrad Kulawas (1968) noted, in opposing our respective points of view, "Mackal feels that of the types of creatures that conceivably could account for the phenomena in Loch Ness—if, indeed, living creatures are responsible—the sirenians, or sea-cows, and pinnipeds

3. In the same year as the appearance of Mackal's book (1976), another book *Nessie: Seven Years in Search of the Monster* was published whose author, Frank Searle, titled himself no less modestly, "Monster-Hunter Extraordinary."
4. Without entering into technical details, it is well to remember that zoologists do not know a single freshwater invertebrate whose length is much greater than a foot. It would be incomprehensible that there would not be *one* species of length intermediate between such dwarfs and such giants whose length can attain (at the least) some thirty-five feet. One would have to assume not only that all those of intermediate size had disappeared, but that paleontologists would not have been able to discover the least fossil trace of them (although it is true that invertebrates without a shell or a skeleton—internal or external—hardly appear in the fossil record). But in any case, soft invertebrates weighing many hundreds of pounds would be crushed under their own weight if they ventured onto dry land.

head the list. But he regards the sirenians as the more likely of the two because they present fewer problems in explaining the evidence," (page 16, Col. 1). After having enumerated the objections which Mackal made to my own hypothesis (the fact that the pinnipeds are curious, that they bark, that they reproduce on land, that they have a short neck, and that the largest never exceed 15 to 20 feet), Kulawas adds: "The sirenians, on the other hand, include a species known as rhytina, or Steller's sea cow, which has been observed up to thirty-five feet long. Mackal says that a possible relative of this creature provides the best working hypothesis for explaining the Loch Ness phenomena," (page 16, Col. 2). Interestingly enough, while Mackal considers this hypothesis to be opposed to my own, in fact I developed virtually the same idea as an explanation of another kind of sea serpent, the "many-humped," (See Heuvelmans 1968, pp. 132, 192-194, 466-69, 566 footnote).

Whether Mackal is aware of this situation or not, he seems to desire originality at any price, for he comes forth with yet another explanation for the conclusion of his book (p. 216): "The evidence has led me to believe that the best possible candidate is a giant aquatic amphibian, probably some evolutionary descendent of an embolomeri." Here he merely takes up again the argument so brilliantly defended by Dr. Malcolm Burr in 1934. Is he aware of Burr's contribution? For the article by Burr is not in Mackal's bibliography, even though I myself spent considerable time analyzing it in my own book (Heuvelmans, 1968, pp. 447-451), which *does* appear in his bibliography.

Before analyzing Mackal's book, I ought to mention that after 1965, Tim Dinsdale published another book, *The Leviathans* (1966), in which he considered the problem of the Loch Ness and other lake monsters in relation to sea serpents in general. He added to them, however, a number of other only semirelated and unrelated zoological problems, like giant anacondas, basking shark strandings, rare whales, and giant eggs of fossil birds. The whole is a zoological hodgepodge which contributes little to solving the problem.

In 1969 Holiday's book, *The Great Orm of Loch Ness* appeared, and was quickly followed in 1970 by Palle Vibe's *Gaaden I Loch Ness*, aimed at opening the question to the Danish public. Also in 1970 the American Elwood Baumann published a well written book on the subject, although the author makes few scientific pretensions and offers little that is new. In 1974, thanks to the precious archives and assistance of Constance Whyte, a young British lawyer, Nicholas Witchell, published a book which was designed to correct, supplement, and complete *More Than a Legend: The Loch Ness Story.* It fulfills this goal very well and possesses excellent illustrations, photographic and otherwise.

It is nonetheless to Peter Costello that we are indebted for placing the Loch Ness mystery in proper perspective. In his book *In Search of Lake Monsters* he shows that we are dealing with a phenomenon common to a large number of lakes with steep banks in the temperate region of both hemispheres. Except for the incredible number of typographical errors in the original edition,[5] this

5. These have generally been corrected in later editions, such as the pocket book editions of 1976.

synthesis—which Costello strove to make as exhaustive as he could—has the great merit of showing the relation between folklore and zoology in the affair. He shows among other things that the assimilation of the majority of lake monsters to the dragon legend has had the unfortunate effect of creating the a priori assumption that the creatures are reptiles. This assumption in turn has been responsible for the popularity of the "leftover plesiosaur" theory in the Anglo-Saxon countries for explaining the "monster."

In 1975 Tim Dinsdale, more at home with the technical developments than with zoology, in his *Project Water Horse* has drawn up a comprehensive picture of researchs carried out on the Loch, up to the attempts—nearly crowned with success, it would seem—of the American team of Dr. Robert Rines. Thanks to the automatic stroboscopic camera developed by Dr. Harold E. Edgerton, of MIT, Rhines was able to get several interesting photos under water which were then enhanced by computer processing at the Jet Propulsion Laboratory in Pasadena, California. But even the photo of what seems to be a "flipper" does not give any indication of the zoological identity of the creature.

Finally in 1976 Professor Mackal's work appeared. If one casts an eye casually over this large volume, of some 400 pages, one is impressed by the large number of tables, graphs, diagrams, statistics, zoological classifications, and photos of complex apparatus. Nearly half the book is taken up by some twelve technical appendices. Surely this, if anything, is a thorough scientific study? But it is not the cowl which makes the monk. As soon as one, excited by the prospect, begins to read the book, one is rudely brought up against some very singular assertions. In the first chapter the author is discussing his own reasons for undertaking the study in the first place. He tells us (p. 12): "First, the published material relating to Loch Ness and its alleged monster, none of it 'scientific' in nature, mainly anecdotal. A few still photographs and film sequences, some of which were not really available but were only alleged to exist. Such then was the picture."

Turning to his bibliography to see that Mackal has consulted the large literature to which we have already referred, we find mentioned in it the works of Burton, Dinsdale, Gould, Heuvelmans, Holiday, Oudemans, and Whyte—all available by 1965. One must then take Mackal's opinions on these other authors, including three professional zoologists, as being less than flattering. He seems to make little of the positive results accomplished by Tim Dinsdale's indefatigable energy being employed on the spot, of the rigor of Gould's study, of the originality of Holiday's hypothesis, to which Mackal himself at one time adhered, and finally of the fine erudition of Constance Whyte's book.

To manifest such a disdain for one's predecessors one must, one would think, have obtained spectacular results and have written *the* definitive book on the subject. In fact, he presents himself from the very beginning as the long-awaited Messiah. After having found (p.12) "The Bureau and its modest experience: some alleged successes, but mostly failures. . . ." and its members "a group of dedicated, sincere people no doubt, but in the main amateurs lacking funds, scientific talent, and technology . . ." he states, "It was obvious why a scientist-engineer was sorely needed: someone to weigh the evidence, sort it out, pass it through the sieve of open-minded but hard-nosed scepticism, and plan experiments and future

activities with a view as to what contributed valid data, valid scientific evidence. To the extent that I qualified, there was no question that I was needed. . . ."

All through the book one waits for Mackal to deliver, like Caesar, his *Veni, vidi, vici.* But if it is true that Mackal went to Loch Ness, and that he saw, if only fugitively and without certainty, one of its mysterious "animals," it is difficult to say that he conquered the problem except perhaps in regard to the reticence of certain bodies to finance research on the "monster." And his book says very little that had not been said previous to it.

Even though he denounces the inadequate character of the word "monster" ("the wholly misleading 'monster,' " p. 14), even though he is irritated that most of the newspaper articles covering his statements changed his careful use of "animal" to "monster" (p.18), he seems to have let his book be titled *The Monsters of Loch Ness.* (Perhaps he agrees with Emerson that "a foolish consistency is the hobgoblin of small minds.") This hardly seems a scientific attitude.

His exposition itself is conducted with something less than the clarity that one would expect from a man of science. Why has he published, in the form of appendices (A, C, D, and E) texts which manifestly belong in the appropriate chapters (VI, VII, VIII, and IX respectively)? Why did he not put in chapter X, where they would have been useful, the classifications of appendix F? And why has he inserted appendix B ("the Loch Linnhe Salinity") in the work at all, since it is irrelevant, or the texts of appendix K, which are only marginally relevant?

The main body of the work (the first half, that is to say) is composed of three parts ("The Search," "The Evidence," and "The Analysis") which follow one another in a logical manner.

One could describe the first section ("The Search") as either "mainly anecdotal" or "too technical." Of what use is it to describe for example, the pocket submarines (which proved useless) or ultrasophisticated devices which never gave any positive results?

The second part ("The Evidence") is a thorough review of all types of evidence (eyewitness reports, photos, films, echosounding tracks) on the creatures accumulated up to this time. But the evaluation of this evidence is not particularly outstanding. It is certainly not founded on more rigorous scientific criteria than in the best of the previous works. Quite the contrary. Thus the criteria which presided over the choice of "251 valid observations" (pp. 224-264) from "almost 3,000 recorded reports" seem to have been largely subjective, and the indications of sources which would allow the reader to consult the original reports used are not indicated; again, hardly a scientific procedure. As for the evaluation of other sorts of evidence (for example the photos of Dr. R. Kenneth Wilson, the films of Malcolm Irvine, and the sonar record of the Peterhead drifter *Rival III*), it is often in contradiction with the opinions of experts as qualified, if not more so, than the author.

The third part ("The Analysis") would be extremely interesting if the author had not let his prejudices get the better of him in his choice of candidates for the "monster." In this regard the chart recapitulating his arguments on page 213 is a tissue of inexactitudes. It would be tedious to enumerate all the errors, which all tend to favor the amphibian hypothesis. His outright rejection of the archeoceti, on

the pretext that none of them have "elongated head-neck regions," in the favor of the amphibians—who are no better supplied in this regard—is completely absurd. And why the possibility of an elongation of the neck for the sirenians in the course of their evolution while it is refused for the archeoceti? His elimination of the pinnipeds—who in 1968 were second only to the sirenians in his preference—because all of them only reproduce on land (which is not entirely correct) does not take account of the evolutionary tendencies which the pinnipeds manifest. Why, finally, during his examination of the creatures' system of locomotion, does he pass over in silence the "up and down undulatory motion" so often observed and which strongly suggests that mammals are involved? As for his affirmation that "a relationship between sea-serpent observation and the animals reported in the Loch is at most tenuous" (page 172), this is in contradiction not only with the essential similarity of the witnesses' accounts in the two cases but also the opinion of many scientific commentators. It does, however, help him more solidly uphold the hypothesis of a modern-day version of a labyrinthodon,[6] for he believes that "amphibia are for all practical purposes confined to fresh waters," (page 172). This is not entirely correct. As I indicated (Heuvelmans 1968, pp. 450-451), the trematosaurs of the lower Triassic period, which were stegocephalia (that is, amphibians), lived in the sea. I also noted: "As the trematosaurs would have to come to fresh water to breed, this theory (that some could have survived) will have to be carefully considered when we come to examine that misnomer, the freshwater 'sea-serpent.' "

I am astonished that Mackal has overlooked these pages which could serve his cause so well. Nonetheless, there are many cases in which he seems to have borrowed argumentation from my book, while citing it only once (p. 140) and keeping it out of the index entirely. I am far from the most serious victim of this apparent absent-mindedness, however. Neither Oudemans nor Rupert Gould, both pioneers in this area, are cited even once, which seems incredible. Dr. Denys Tucker, whose scientific career seems to have been ruined because of his insistence on promoting the "lost plesiosaur" hypothesis, has been totally forgotten. Peter Costello, to whom Mackal manifestly owes the essentials of his information on observations of Nessie on land (as well as land sightings of similar creatures elsewhere), is mentioned only once in the text, and that for having published one of the photographs analysed in the book. Nicholas Witchell, whose reconstruction of the historical events is so minute, is similarly neglected. It is scientifically ethical not to credit previous researchers with their success, discoveries, and theories?

Perhaps I have said enough about the book's faults. What about its strengths? In fact it does possess some positive and original contributions. Mackal's exposition of the formation of a "standing wave" is very important, since he is correct in referring to it as "that most persistently confusing natural effect," (pp. 28-29). His research and speculations about the hypothesis of a large thick-bodied eels being the creature (pp. 75, 144-147, 216, 319-330) are interesting. He emphasizes, and rightly so, the abundance of fish in the Loch, and especially the great number of salmon (pp. 174-176, 332-339). His remarks on the nature and evolution of the worm-like amphibians the Caecilians are of considerable interest

6. The last fossil record of a labyrinthodon places it some 250 million years ago.

(pp. 267-268).

It was with considerable reluctance that I agreed to review this book, whose appearance is so deceptive and whose contents are so disappointing. I corresponded agreeably with Dr. Mackal in 1960, when he wrote to tell me how much he enjoyed my book *On the Track of Unknown Animals.* When later he put himself on the track of the Loch Ness "Monster," I felt a little as if he were one of my disciples. He now announces his intention to found a Center of Cryptozoology, a similar project to the one I myself brought into being after thirty years of work. The Verlhiac Centre De Cryptozoologie has now existed for several years and has already received some visiting colleagues and students. The reader can thus easily understand my discomfort in criticizing a colleague whose aspirations are so near to my own.

One can only hope that Dr. Mackal, in his desire to establish a cryptozoological center, will do it on a more scientific basis, and in a more fair and balanced manner, than has been the case in his treatment of the Loch Ness mystery.

References

Anonymous 1966. *Joint Air Reconnaissance Intelligence Centre (U.K.) Photographic Interpretation Report No. 66/1 (1966) 'Loch Ness Phenomena Film Report Concerning 1960 (Dinsdale) Sighting TD/LNPIB/2 dated 18th November 1965.'* London: Ministry of Defense.

Arnold, Richard F. and Peter F. Baker 1960. "The Mystery of Loch Ness" *The Scotsman.* Edinburgh (September 12).

Baker, Peter F. 1960. "Objects Seen in Loch Ness." *The Scotsman.* Edinburgh (September 13).

Baker, Peter F. and Mark Westwood 1960. "Underwater Detective Work. Seeking the Monster with an Echo-Sounder." *The Scotsman.* Edinburgh (September 14).

Baker, Peter F., Mark Westwood and Constance Whyte 1961. "The Loch Ness Monster." *New Scientist.* London (January 5).

Baumann, Elwood D. 1972. *The Loch Ness Monster.* New York: Franklin Watts.

Burr, Malcolm 1934. "Sea-Serpents and Monsters." *Nineteenth Century,* London, 115 (February): 220-230.

Burton, Maurice 1953. "Eel Watching." *Illustrated London News* (August 8).

———1954. *Living Fossils.* London: Thames and Hudson.

———1959. *More Animal Legends.* London: Frederick Muller.

———1960. "The Loch Ness Monster." *Illustrated London News* (February 20): 316.

———1960. "The Problem of the Loch Ness Monster: A Scientific Investigation." *Illustrated London News* (July 16, 23, 30): 110-111, 150-151, 192-193.

———1960. "The Loch Ness Monster: A Reappraisal." *New Scientist,* London (September 22): 773-775.

———1961. *The Elusive Monster.* London: Rupert Hart-Davis.

Costello, Peter 1974. *In Search of Lake Monsters.* London: Garnestone Press.

———1977. *A la Recherche des Monstres Lacustres.* Paris: Plon.

Dinsdale, Tim K. 1961. *Loch Ness Monster.* London: Routledge and Kegan Paul.

———1966. *The Leviathans.* London: Routledge and Kegan Paul.

———1972. *Monster Hunt.* Washington, D.C.: Acropolis Books. (This is an enlarged edition

of the previous work.)
———1975. *Project Water Horse.* London: Routledge and Kegan Paul.
Gould, Rupert T. 1930. *The Case for the Sea-Serpent.* London: Philip Allan.
———1934. *The Loch Ness Monster and Others.* London: Geoffrey Bles.
Heuvelmans, Bernard 1965. *Le Grand Serpent-de-Mer.* Paris: Plon.
———1968. *In the Wake of the Sea-Serpents.* London: Rupert Hart-Davis; New York: Hill and Wang.
Holiday, Frederick William 1962. "I See a Strange Swell at Loch Ness." *Western Mail* (September 17).
———1969. *The Great Orm of Loch Ness.* New York: W. W. Norton.
James, David 1966. *The Loch Ness Investigation: Annual Report 1966.* Inverness: Courier.
Kulawas, Conrad 1968. "The Quest at Loch Ness." *University of Chicago Magazine* (September-October): 9-17.
Mackal, Roy P. 1976. *The Monster of Loch Ness.* London: MacDonald and Jane.
Oudemans, Antoon Cornelis Jr. 1892. *The Great Sea-Serpent.* Leiden: E. J. Brill.
———1934. *The Loch Ness Animal.* Leiden: E. J. Brill (May). (Also: London: Luzac and Company.)
Richardson, E. S. Jr. 1966. "The Tully Monster." *Bulletin of the Field Museum of Natural History,* 37, No. 7. (July) Chicago.
Scheider, W. and P. Wallis 1973. "An Alternate Method of Calculating the Population Density of Monsters in Loch Ness." *Limnology and Oceanography* 18 No. 2 (March): 343.
Searle, Frank 1976. *Nessie: Seven Years in Search of the Monster.* London: Hodder and Stoughton.
Sheldon, R. W. and S. R. Kerr. "The Population Density of Monsters in Loch Ness." *Limnology and Oceanography* 17, No. 5 (September): 796-798.
Tucker, Denys W., Maurice Burton, Dorothy E. Warren, and Constance Whyte 1960. "The Loch Ness Monster." *New Scientist* (October 27): 1144-1146.
Tucker, Denys W. 1960. "The Loch Ness Monster." *New Scientist* (November 17): 1346-1347.
Vibe, Palle 1970. *Gaaden I Loch Ness.* Copenhagen: Rhodos.
Whyte, Constance 1957. *More Than a Legend: The Story of the Loch Ness Monster.* London: Hamish Hamilton.
Witchell, Nicholas 1974. *The Loch Ness Story.* Lavenham (Suffolk): Terence Dalton Ltd.
———1976. *The Loch Ness Story* (Second edition). Harmondsworth: Penguin Books. •

From Our Readers

Castaneda and anthropologists

I wish to comment on your review of Richard de Mille's book *Castaneda's Journey*. The review by Marcello Truzzi seems to buy de Mille lock, stock, and barrel, and to take the Castaneda affair as typical of modern anthropology. There is some question as to the value of the first and certainly no way in which Castaneda is a typical modern anthropologist.

As to the first: de Mille exposed many inconsistencies that prove *either* that Castaneda was a brilliant fraud *or* that he was an incredibly careless and sloppy ethnographer in a disorganized department. If he was actually a brilliant faker, I think he would have covered his tracks better. Moreover, those of us who have met Castaneda and talked to him are, I am very sorry to say, more prone to believe the second alternative. The naive tone of his books is apparently not put on. As to the problems of the UCLA anthropology department at that time, in charity I will say only that many or most of them have been cleared up since by better chairpeople. Even so, de Mille's allegations that the department actually collaborated in perpetrating fraud do not ring true. Castaneda may have slipped through between factions, but I doubt if he got the department to unite effectively on his side.

More serious is your implied charge that Castaneda is typical of modern anthropology. In one way he and his case are typical: there is really no way that a Ph.D. thesis committee can check on the claims of a student about his field work. Castaneda is less circumstantial and more inconsistent than most anthropologists, but that doesn't mean the others are necessarily right. The recent proof that Cyril Burt faked his figures on heritability of intelligence (the figures on which the racism of Shockley, Jensen, and others stands to a major extent) indicate that even very highly circumstantial and quantified data can be cooked very convincingly indeed. Very few anthropology departments would have accepted *Journey to Ixtlan* as a thesis—I doubt if UCLA would today—but all must accept theses based on field work we have to take on faith.

In other ways, however, Castaneda is not typical. There are really very few theses or books as wingy as his in the field. The individuals like Silverman who have taken his books as gospel (literally) are very few and very marginal. The reason Castaneda's books are so widely used in beginning anthropology courses is that the students are reading them anyway, and will not read more serious tomes with equal enthusiasm. This is a rather strange point in itself. I still find it hard to see why Castaneda's poorly written, inconsistent, and all-in-all rather dull books are so popular.

All anthropologists are aware of far more meticulously documented and far better-written studies of primitive religion that describe much more exotic and amazing world-views than don

Juan's. For Mexico there are many, from Karl Lumholtz to Barbara Myerhoff, who have done better. For the rest of the world there is a wealth of even more exciting work, such as the writings on Eskimos by the Eskimo ethnographer Knut Rasmussen, the work on northeast Siberian tribes by Bogoras, Jochelson, and Shirokogoroff, and thousands more. For more "civilized" societies, we have—for instance—the work on Chinese spirit mediums by Emily Ahern, Gary Seaman, and others, which makes don Juan look like a dull and cloddish individual indeed by comparison. The trouble is that most of these descriptions are buried in scholarly tomes, whereas the University of California Press ballyhooed Castaneda's first book for the pop trade, and edited it with this in mind. (It remains notably more concise and better written than later efforts that went directly to the "trade" publishers.) Students, raised on TV spectaculars and science-fiction novels expect anthropological studies to read the same way.

This said, it must also be said that Castaneda is no obvious fake in the manner of von Däniken. The latter commits unquestionable errors of fact on almost every page. Castaneda's descriptions, however, are not obviously wrong. Many other descriptions of mestizo curers and shamans in Mexico report all the same general things, in drier and less subjective language. Even don Juan's self-designation as "Yaqui" is not obviously an absurd thing to report, though don Juan is no Yaqui in the ethnographic sense. Declassed part-Indians in the United States and Mexico frequently claim such identification with a famous tribe, with or without the justification of a great-grand-ancestor therein. What Castaneda reports is broadly consistent with other descriptions of the syncretist Indian-folk Catholic religion of rural Mexico. Again, he could merely have been more clever a faker than von Däniken, but he could also have been what he says: a sorry ethnographer who mismanaged his field notes but got some real data. He could be anywhere in between those extremes. Perhaps the most likely scenario is that he got some real data but not enough for a thesis, and used his imagination to extend what he got. On present evidence, *pace* de Mille, we can't tell. Hence the "lack of serious reaction" to the "exposure."

E. N. Anderson Jr.
Associate Professor of Anthropology
University of California
Riverside, Calif.

Marcello Truzzi replies:

Though Dr. Anderson seems to accept that Castaneda's effort is an "incredibly careless and sloppy" ethnography rather than a fraud (which is certainly possible though improbable), and he seems to object to my being convinced by de Mille's parade of evidence "lock, stock, and barrel," Dr. Anderson does not present any evidence to contradict de Mille's case. I think he also misunderstands both de Mille and my review, for neither of us claims that the UCLA department in any way colluded in what appears likely to have been Castaneda's hoax. I perceive the UCLA department as the victim *of Castaneda's efforts.*

Though I stated that the Castaneda affair "is particularly valuable for what it demonstrates about the state of contemporary anthropology, especially at UCLA," this was not meant to imply that Castaneda's work is typical of modern anthropology. It is quite atypical, but the response to his work (including uncritical positive review of his work and reprinting of it in anthropology texts) is certainly lamentable and would seem to indicate sloppy scholarship well beyond the "disorgan-

ized department" at UCLA. The simple fact is that doctoral dissertations accused of being hoaxes should call for investigation, and if fraud is established, should call for the rescinding of the degree granted for such work.

I would agree with Dr. Anderson that there are far more fascinating works in anthropology to which students should be introduced through their courses. The fact that "students are reading them anyway" should be, I would think, a major reason for not *assigning Castaneda's books in the classroom. As a member of the American Anthropological Association myself, I would be pleased if our Association took an interest in the matter and issued a statement for the public on Castaneda's work following the results of their investigation into the truth of these claimed ethnographies that so many people seem to have accepted as representing excellence in anthropological research. I do not think Castaneda is a typical anthropologist, but many of his thousands of readers do. I think every anthropologist should be deeply concerned about that.*

Marcello Truzzi

Richard de Mille responds:

Though the Castaneda affair is far from "typical of anthropology," the failure of the profession to publicly *censure the hoax casts a shadow over all anthropologists which cannot be dispelled by E. N. Anderson's ill-conceived defense. Some cleansing ritual is needed: if not the formal defrocking proposed by Marcello Truzzi, then some less severe but equally unequivocal official act.*

Unwittingly Dr. Anderson besmirches a host of honest ethnographers by suggesting no committee can even assess the authenticity of a dissertation. A fabrication like Castaneda's must have been judged fraudulent by any competent, responsible committee. Though Dr. Anderson sees the committee as incompetent, while I see them as irresponsible, those are just opinions. One purpose of Castaneda's Journey *was to elicit further authoritative information, so that scholars and laymen might choose with more confidence between the two viable hypotheses: 1) faculty were fooled, and 2) faculty acted as Castaneda's accomplices.*

Though Dr. Truzzi correctly implies I did not categorically assert the truth of the second hypothesis, I did say: "They must have known they were dealing with an illusionist rather than a fieldworker. Why did they wish to foster the illusion?" My guess was that Castaneda seduced one or more faculty members into an early prank—publishing The Teachings *as ethnography —which others later covered up by accepting* Ixtlan *as a dissertation. No plausible refutation of that scenario has yet come forth; a bag of fresh roasted wild* hikuri *nuts says none ever will.*

Though Dr. Anderson was taken in by the bumbling amateur I have called "Carlos-Näif," graduate school examiners at UCLA judged the candidate to be both subtle and brilliant. Close study of the don Juan books proves them right. Carlos Näif is only one of Castaneda's several disguises. Had he not preferred playing pranks and writing fiction, he would have made a great anthropologist. Anderson makes the risky assumption no brilliant faker wants to be caught. I believe Castaneda seeded his books with clues that would lead us to him, because he wanted us in the end to recognize him as the master trickster and talented allegorist he is. It was a good lesson, but some have yet to learn it.

Richard de Mille

Rationality and commonsense

Allow me to make a few comments on the letter by A. H. Klotz (Babylon, N.Y.) given the title "Rationality" in the Spring/Summer 1977 issue of *The Zetetic.*

Mr. Klotz proceeds to define "rationalism" and then describes this definition as "commonsense." He then lists a number of phenomena and concepts which "defy rationality" because they defy "commonsense." Unfortunately for Mr. Klotz, his "commonsense" description was *not* part of his definition (if it had been, I would certainly have argued for its omission). Black holes, square roots of negative numbers, etc., defy "commonsense," *not* "rationality." His examples from the history of science and the "trick" questions that he likes to spring on "so-called rationalists" ("so-called" because they are really "commonsensists") are all sadly lacking. The typical reaction to one of his puzzles, "often emotional," is, "If that could occur, rationality would be destroyed." A true rationalist would never say that (certainly not emotionally) because to him rationality is the sole guide to truth (from the definition) and thus cannot be destroyed (i.e., false).

Mr. Klotz's final example ("Is it possible that lunar phases can influence plant growth?") is cute, but again, I feel a little sorry for the astronomer who (answering, "You don't believe that nonsense, do you?") probably just mistook the questioner for a klutz.

It is indeed a tribute to "rationality" that the question, "Is it possible that *plant growth* can influence *lunar phases*?" may also be answered in the affirmative. Plant growth is nothing more than the local displacement of some types of atoms and some forms of energy in and around the thing we choose to call a plant. Similarly, lunar phases are merely a description of the relative movements of the atoms comprising the moon. Because the law of gravitation is "universal," movement of matter in one part of the universe will always affect (i.e., influence) matter in other parts; but whether it does so "significantly" is more a question for the experimenting scientists than the armchair philosophers of this world.

Hans Havermann
Weston, Ontario, Canada

Past zetetics

Robert J. Schadewald (*The Zetetic,* Spring/Summer 1977) states: "In nineteenth-century England, the noun *zetetic* was used as a synonym for 'flat-earther.' " That may have been true in the late nineteenth century, but in the early nineteenth century the word *zetetic* was used by the skeptics who formed the first British freethought movement in the 1820s, during the great struggle for the freedom of the antireligious press by the followers of Thomas Paine under the leadership of Richard Carlile. Zetetic societies appeared in England and Scotland as the organizational aspect of the new movement, and Zeteticism was a significant component of British ultra-radicalism until it evolved into Secularism during the 1840s.

The first principle of the first Zetetics was that of free inquiry based on reason and doubt, so it seems appropriate to call a journal following the same principle a century and a half later *The Zetetic.*

Nicolas Walter
Rationalist Press Association
London, England

Mr. Schadewald replies:

Walter's letter is news to me, and I'm very glad to have it. I suspect that

Samuel Birley Rowbotham, fundamentalist founder of the flat-earth movement, stole the word "zetetic" from the freethinkers. It would be just like him. At 19, he was head of an Owenite colony, but was thrown out for trying to put the New Moral World on a flat footing. He took up quackery, and for years sold a snake-oil offering users extreme longevity. He gave flat-earth lectures under at least four different pseudonyms. He swindled a faithful follower out of 135 pounds. His flat-earth arguments were so cynically dishonest that many doubted that he believed them himself. Other than that, he was a fine fellow.

Still, I suspect Mr. Walter overstated his case. The Oxford English Dictionary gives two examples of usage that are flat-earth and none that apply to early nineteenth century freethinkers.

On another matter: On page 6 of the Zetetic's *Spring/Summer 1977 issue, Marcello Truzzi states, "Fort himself merely clipped newspaper stories relating such strange incidents without really seeking to verify them." I was unaware that* Nature, *which Fort cited 114 times (counting them from the index of* Books of Charles Fort), *is a newspaper. Also* American Journal of Science, Proceedings of the British Association for the Advancement of Science, Journal of the Royal Meteorological Society *and dozens of his other sources are not generally considered newspapers.*

Out of curiosity, I opened Book of the Damned *at random, and counted references for several chapters. I ended up with 139 tabulated, broken down as follows: books, 13; popular magazines, 15; newspapers, 17; scientific magazines, 50; learned journals, 44. Some of the category choices are very arbitrary (was Littel's* Living Age *a scientific magazine or a journal; I called it a magazine) and some of the magazine and even journal items were inspired by newspaper stories. Most of the newspaper items are from the London* Times. *The newspaper charge against Fort has been promoted endlessly by debunkers who, I'm sorry to say, frequently know better. There is no difference in intellectual honesty between true believers and true nonbelievers.*

Fort was interested in truth, *but wasn't sure where to find it. His early work was very similar to Corliss's research, but he didn't find a Xerox machine with which to copy pages at a time. In his writings, he had to rely on notes. His first effort,* Book of the Damned, *is the most "scholarly." His last,* Wild Talents, *is the least, and in fact* is *based largely on newspaper stories.*

I certainly hope the debunking spirit doesn't come to totally dominate CSICP. Certainly a generous dose of skepticism is essential *for such investigations. And I strongly suspect that most if not all of the material in question* is *bunk. But strident* ad hominem *argument cannot pass for scientific investigation, which is what the committee advertises. If it clearly delivers less, it will left-handedly lend support to exactly that which it intends to topple.*

Robert J. Schadewald
Rogers, Minn.

Studies on occultisms

I am writing a book, to be published by Prentice-Hall, which discusses, among other things, a number of occultisms, together with empirical studies that have been conducted to test their validity. Such tests are few and far between and I would appreciate your readers informing me of any empirical tests of the following beliefs of which they are aware: 1) "psychic" auras, 2)

zone therapy and reflexology, 3) polarity therapy, 4) iridology, 5) homeopathy, 6) the *I Ching*, 7) radiesthesia, 8) numerology, 9) palmistry, and 10) pyramid power.

Andrew Neher
Psychology Department
Cabrillo College
6500 Soquel Drive
Aptos, Calif. 95003

Creation-evolution controversy

With reference to the book review by Norman R. King of *The Creation-Evolution Controversy*, this reads almost as though it were a critique of an earlier book called *Science and Creation*, copyright 1973 by the Creation-Science Research Center, Suite 117, 4250 Pacific Highway, San Diego, CA 92110 at a more modest price in paperback of $1.95!

I presume someone didn't mind making a small profit from copying much of the earlier work. I presume this religious fanatic group has lots more of the same material with which they try to teach young children in "bible schools." It would be amusing if it were not so sad that children are programmed with this garbage.

Charles E. Spitz
Arlington, Va.

Contributors

Laurent A. Beauregard is a scholar/writer and philosopher of science, formerly assistant professor of philosophy and humanities at Reed College.

Richard de Mille is a psychologist and author of *Castaneda's Journey: The Power and the Allegory.*

Kendrick Frazier, the new editor of *The Zetetic,* was formerly the editor, and is now contributing editor, of *Science News.*

Martin Gardner is author of many science books and a regular contributor to *Scientific American.* He lives in Hastings-on-Hudson, N.Y.

Bernard Heuvelmans, D.Sc., F.Z.S., is an author of many books and a researcher at the Centre de Crypotzoologie, Verlhiac, St. Chamassy, 24260 Le Bugue, France.

Philip J. Klass is an aerospace writer in Washington, D.C. author of *UFOs Explained,* and a fellow of the Institute of Electrical and Electronics Engineers.

Larry Kusche is author of *The Bermuda Triangle Mystery—Solved.* He lives in Tucson.

James E. Oberg is a space specialist in Houston working on the space shuttle project and a writer/editor/lecturer on space exploration, astronomy, and pseudoscience topics.

James Randi is a magician, an investigator of paranormal claims, and author of *The Magic of Uri Geller.*

Dennis Rawlins is an astronomer, writer, and investigator of academic fraud. He now lives in San Diego.

John P. Robinson, a prominent survey analyst in the areas of public opinion and popular culture, is director of the Communication Research Center at Cleveland State University. His numerous writings include *Measure of Social Psychological Attitudes* (1969).

Robert Sheaffer is a computer-systems analyst and science writer in Silver Spring, Md. He and James Oberg are members of the new UFO subcommittee of the CSICP.

Ronald D. Story's book *The Space-Gods Revealed* (Harper & Row) has just been published in paperback by Barnes & Noble.

The Committee for the Scientific Investigation of Claims of the Paranormal

Sponsored and supported by the American Humanist Association, the Committee for the Scientific Investigation of Claims of the Paranormal has the following objectives:

- *To establish a network of people interested in examining claims of the paranormal.
- *To prepare bibliographies of published materials that carefully examine such claims.
- *To encourage and commission research by objective and impartial inquirers in areas where it is needed.
- *To convene conferences and meetings.
- *To publish articles, monographs, and books that examine claims of the paranormal.
- *To not reject on a priori grounds, antecedent to inquiry, any or all such claims, but rather to examine them openly, completely, objectively, and carefully.

THE ZETETIC is the official journal of the Committee.

Paul Kurtz, Chairman, Philosopher, State University of New York at Buffalo, Editor-in-Chief, The Humanist

Lee Nisbet, Executive Director, Philosopher, Medaille College, Executive Editor, The Humanist

Fellows of the Committee:

George Abell, Astronomer, UCLA; James E. Alcock, Psychologist, York Univ., Canada; Isaac Asimov, Chemist, Author; T. X. Barber, Psychologist, Medfield Foundation; Richard Berendzen, Provost, American Univ.; Brand Blanshard, Philosopher, Yale; Bart J. Bok, Astronomer, Steward Observatory; Bette Chambers, President, American Humanist Association; Milbourne Christopher, Magician, Author; Daniel Cohen, Author; L. Sprague de Camp, Author, Engineer; Persi DiAconis, Statistician, Stanford Univ.; Eric J. Dingwall, Anthropologist, Author; Christopher Evans, Psychologist, National Physical Lab., U.K.; Charles Fair, Author; Antony Flew, Philosopher, Reading Univ., U.K.; Kendrick Frazier, Science Author, Editor, THE ZETETIC; Yves Galifret, Exec. Secretary, l'Union Rationaliste; Martin Gardner, Author, Scientific American; C. E. M. Hansel, Psychologist, Univ. of Wales; Sidney Hook, Prof. Emeritus of Philosophy, NYU; Richard Hull, Philosopher, SUNY at Buffalo; Ray Hyman, Psychologist, Univ. of Oregon; Leon Jaroff, Senior Editor, Time Magazine; Lawrence Jerome, Science Writer, Engineer; Richard Kammann, Prof. Psychology, Univ. Atago, Dunedin, New Zealand; Philip J. Klass, Science Writer, Engineer; Marvin Kohl, Philosopher, SUNY at Fredonia; Lawrence Kusche, Science Writer; Ernest Nagel, Prof. Emeritus of Philosophy, Columbia; James E. Oberg, Science Author; James Prescott, Psychologist, HEW; W. V. Quine, Philosopher, Harvard Univ.; James Randi, Magician, Author; Dennis Rawlins, Science Writer, Astronomer; Carl Sagan, Astronomer, Cornell Univ.; Evry Shatzman, President, French Physics Association; Robert Sheaffer, Science Author; B. F. Skinner, Psychologist, Harvard Univ.; Marvin Zelen, Statistician, Harvard University; Marvin Zimmerman, Philosopher, SUNY at Buffalo.

Committee sections have been established in France, Belgium, Great Britain, and New Zealand. The committee also has a UFO sub-committee.

Institutions given for affiliation only.